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INSIDE DOPE

by **GEORGE F. TAUBENECK**

Story of the Week
Dr. Gilmartin Again
Challenge to Debate
What Subscribers Say

Story of the Week

At the close of a convention attended by ministers of the Gospel, a small group of preachers were talking quietly in the lobby of their hotel when they were approached by a panhandler, who wheedled:

"Can you spare some money for a poor down-and-outer?"

"No," replied the self-appointed spokesman for the group. "But why don't you ask Dr. Howlett? He's a very sympathetic gentleman. You'll find him right over there by the cigar counter."

Hopefully, the hobo conned Dr. Howlett. Some 15 minutes later he emerged from the tete-a-tete wearing a somewhat rueful expression on his face.

"How much money did Dr. Howlett give you?" asked the preacher who had directed him.

Admitted the bewildered panhandler: "Well, uh, he talked me into giving him a dollar for his Chinese missionary fund."

Dr. Gilmartin Again

In the Sept. 23 issue we exposed correspondence with the Rev. Dr. Gilmartin, national chairman of the Workers' Defense League. Dr. Gilmartin was peeved at our editorial, "What's the Matter with America?" Following is the sequel to that first exchange of punches:

Unitarian Society of Fort Wayne
2929 Fairfield Ave.
Fort Wayne 6, Ind.

Editor:

Your letter of Sept. 12 is of special interest because of what it reveals of your attitude toward the church. You tell me "Go back to your pulpit" and quote "Render unto Caesar what is Caesar's and unto God what is God's." This is a convenient way many business men have of saying that they do not want their business activities to be measured and tested by the moral standards of religion and the ethical teachings of the church.

There is no church, I hope, that has so far forgotten or forsaken its prophetic mission as to cease to condemn the great social wrongs of the day. My own fellowship reiterated this function only a few years ago in these words: "religion that has no social application isn't religion at all. What we should be concerned with is religion in its completeness, taking it as axiomatic that religion will move out into social action as religion; and not as an additional (and therefore possibly dispensable) activity."

My participation in the every day affairs of the world and of men is an indispensable part of my religion.

I might add, parenthetically, that my denomination rejects the totalitarian concept of church organization and of an authoritarian ministry—of which you write—quite as much as we reject these concepts in the political realm.

The Workers Defense League shares this renunciation of political totalitarianism whether it calls itself "fascist" or "communist" or "100% American business."

You ask "Are you doing all you can to foster brotherly love?" I believe I am doing something toward that end when I criticize your editorial which is full of "hate labor," and the Committee for Constitutional Government which has sponsored its wide distribution in reprint form. I believe the action you urge will not foster "brotherly love," but instead is conducive to strife and discord between management and labor.

(Continued on Page 12, Column 1)

**Dairy Conclave
Told Equipment
Supplies Short**

ATLANTIC CITY, N. J.—Ice cream manufacturers heard the same, sad supply story here at a symposium of leading ice cream ingredient and equipment suppliers during the Forty-Second annual convention of the International Association of Ice Cream Manufacturers, held in conjunction with the Dairy Industries Exposition.

The symposium, led by Robert Rosenbaum, president of the Dairy Industries Suppliers Association, revealed a none-too-bright supply situation for the balance of this year and during 1947.

Manufacturers supplying the ice cream manufacturing industry foresaw equipment delivery as far away as 20 months for some items. Delivery on refrigeration compressors was put at from 18 to 20 months. Some improvement was seen on delivery of soda fountains and ice cream cabinets.

Boiled down to the simplest terms (particularly with reference to items involving refrigeration equipment) the supply timetable, said to have resulted from a survey of manufacturers and suppliers exhibiting at the Dairy Industries Exposition, is:

Trucks: Minimum replacements available in 1947.

Soda Fountains: Production up. Six to eight months delivery.

Ice Cream Cabinets: Three times as many to be delivered in 1947 as in 1946.

Freezers: Twelve to 20 months delivery.

Coolers: Four to 12 months delivery.

Plates: Ten to 18 months delivery.

Refrigeration Compressors: Eighteen to 20 months delivery.

Wayne Jordan, Liquid Carbonic Co., stated that soda fountain manufacturers are now shipping more equipment than in 1941. A higher percentage of this production, he said, was in smaller, "bobtail" units, smaller manufacturers, specializing in these models. He predicted that in six to eight months, 50% more equipment would be moving to market than in all of 1941.

Big problems in the manufacture of ice cream cabinets, he said, were short supplies of small electric motors, castings and copper tubing. Providing these bottlenecks are cleared within the next few months, full production should be reached early in 1947, with production next year being tripled over that of 1946.

(Concluded on Page 4, Column 2)

**Steel, Iron Shortage
Cuts Range Output**

ATLANTIC CITY, N. J.—The current slowdown in the production of ranges and other electrical devices can be blamed on the scarcity of light gauge steel and enamel iron as well as priority housing orders.

That's the contention of Harry M. Parsons, vice president in charge of major appliances, Landers, Frary & Clark, New Britain, Conn. In a speech before over 600 attending the five day conference of the National Electrical Manufacturers Association here, Mr. Parsons declared that no relief was in sight before the middle of 1947, when the Civilian Production Administration expects the supply of essential material to increase sufficiently.

Said Mr. Parsons:

"The production rate of electric ranges this year is just 55% of the 728,000 units produced in 1941.

"While . . . washing machines are being produced at approximately the 1941 rate," he continued, "the heavy back-log of orders for these items makes the present supply far from adequate."

(Meanwhile, in Washington, D. C., the OPA exempted copper and zinc from price control when sold by the Reconstruction Finance Corp. or its subsidiaries exclusively for export.

Effective Oct. 24 under Supplementary Order No. 188, the action was taken at the request of RFC (Concluded on Back Page, Column 5)

**Radios Decontrolled
In New OPA Order**

WASHINGTON, D. C.—Radios and small electrical appliances were among a list of items decontrolled last week by the Office of Price Administration.

This action was taken, OPA stated, because the production of both radios and the small electrical appliances (namely, heaters, non-automatic toasters, irons, hot plates, electric heating pads, and electric shavers) approximately balances demand.

At word of the decontrol of radios, R. C. Cosgrove, president of the Radio Mfrs. Association, stated:

"The public can be assured that the lifting of price controls from radio sets will not result in any general increase of prices to the consumer."

Decontrolling of these items was effective Oct. 30 under Amendment 93 to MPR 188 and Amendments 73 and 74 to Supplementary Order 126.

OPA emphasized, however, that all major electrical appliances are still under price control.

250 Firms Exhibit at Atlantic City Dairy Show

ATLANTIC CITY, N. J.—For the first time since 1941, the Dairy Industry had a look at the latest in equipment and supplies, as 250 exhibitors rang up the curtain for an estimated 30,000 visitors at the Fifteenth Dairy Industries Exposition at Atlantic City's huge Convention Hall, Oct. 21-26.

Keynoted on a "pledge to progress" by Robert Rosenbaum, president of Dairy Industries Supply Association, sponsors of the Exposition, members from some 25 different countries attended sessions of the four concurrent conventions, International Association of Milk Dealers, National Association of Milk Dealers, International Association of Ice Cream Manufacturers, and International Association of Milk Sanitarians, to hear discussions on new and improved practices and equipment, ranging from quality control on the processing end to store planning on the retail end.

Manufacturers in the refrigeration and frozen food fields were well represented at the Exposition with impressive displays of a varied line of equipment which included household refrigerators, home freezers, reach-in

boxes, storage doors, ice cream cabinets, soda fountains, frozen food display and storage cabinets, compressors, cold plates, frozen foods, temperature recording and control equipment, condensing units, unit coolers, carbonators, liquid coolers and condensers, frozen food packaging equipment, ice cream freezers and hardening cabinets, icemakers, and refrigerated trucks.

Featured in the refrigeration and frozen food displays were:

Bastian-Blessing Co.: Wall-type soda fountain and luncheonette installation, Bobtail soda fountain, 8-hole, remote type ice cream cabinet, 8-hole, portable type ice cream cabinet, 12-hole portable type ice cream cabinet, 12-hole, portable type ice cream cabinet, 12-hole, remote type ice cream cabinet, Eclipse, 110-volt carbonator.

Dole Refrigerating Co.: Cold plates for processing and transporting frozen foods, featured in a panoramic photo display with a "Keep 'Em Fresh—Keep 'Em Frozen" theme.

Frigidaire Division, General Motors Corp.: Progressive photographs and equipment display of the construction

**Over 10,000 Attendance Jams
Cleveland Show Opening Day**

Exposition Proves 'Greatest In History'

By the Staff of the NEWS at the Show

CLEVELAND, Oct. 29—The greatest aggregation of persons interested in the refrigeration and air conditioning field ever to be assembled at one time "took over" the city of Cleveland this week to attend the first All-Industry Refrigeration & Air Conditioning Exposition since 1941, and to meet in a series of conferences sponsored by six industry associations.

More than 10,000 registrants on opening day jammed their way into the Cleveland Public Auditorium, where the show is being held. At 12 noon Tuesday, when the show was to be officially opened, a crowd estimated at 3,000 people was milling around the entrance. Veteran employees of the Auditorium said they couldn't remember ever seeing anything like it.

The exhibits themselves were

overwhelming, with nearly every manufacturer of any consequence in the industry showing his postwar products. For the first time in history, perhaps, has the magnitude of the commercial refrigeration and air conditioning industry been properly represented.

The only sour note, perhaps, was the fact that the local hotels and the

**How to Set the 2%
Refrigerator Boost**

DETROIT—The mechanics of the 2% price increase permitted some retailers of household mechanical refrigerators, which became effective Oct. 25 (see story in Oct. 28 issue of the NEWS) are relatively simple.

To qualify for the right to the increase, a dealer must have done 75% of his business in the years 1939-1941 in items the production of which were reduced 75% in the years 1942-1945.

This would obviously make it applicable to all specialty appliance dealers who had 75% of their business in refrigerators, appliances, and radios.

The dealer figures his new price by taking 2% of the old price, less warranty, as the amount of the increase. He then adds the amount of the increase and the warranty and gets his new price. (Price should be set to the nearest 25 cents.)

He then prepares a price sticker which says "My adjusted ceiling price in accordance with Order 22 of MPR 598 is \$" He places this sticker above the "priced" price tag of the manufacturer. This manufacturer's price tag must remain.

**Some Furniture Dealers
Protest Refrigerator Pricing**

NEW YORK CITY—Furniture retailers are reported to be conducting unofficial investigations to determine whether there is any legal justification for OPA's action granting pricing differentials to specialty appliance stores.

Detailed descriptions of the new and improved products exhibited at the Show will be published in a following issue of the NEWS.

Convention & Tourist Bureau did not realize the magnitude of the industry, and so somewhat inadequate provisions were made to provide completely satisfactory accommodations for the great hordes of people who came for the Show and meetings.

Manufacturers who went to great lengths to provide informative and interesting exhibits were rewarded by the intense interest and concentration of people who literally "lined up" to get their turn for an explanation of the products shown.

Thirty minutes after the doors were open there was no doubt about the verdict—it was the greatest show in the industry's history.

**REWA Meeting Reviews
Year's Problems Handled**

CLEVELAND, Oct. 29—Refrigeration Equipment Wholesaler's Association, which reported a growth to a total of 162 members during the past year, reported that it was following a program of handling more aggressively, through its officers and committees, many industry problems.

Announcement was made that the next annual meeting of R.E.W.A. has

This story and those following summarize briefly what happened at the meetings of some of the associations that convened in Cleveland during the Show. More complete reports will be published in succeeding issues of the NEWS.

been scheduled for March 20-22 at the Edgewater Beach hotel in Chicago.

President Ted Glou of the association reported that the group had long been active in probing into the "Freon" shortage problem and the matter of trade relations, and that some progress had been made on both. He also announced the appointment of a new committee to work with the U. S. Secretary of Commerce in the Commerce Department's plan for a revision of present business regulations and trade practices.

George Roche, chairman of the manufacturer's relations committee, offered the following program which R.E.W.A. will press for:

1. A written statement of the sales policy of the individual manufacturer, which policy will hold for all parts of the country.
2. More vigorous promotion of the theme "buy from your wholesaler."

(Concluded on Back Page, Column 1)

Ice Cream Mfrs. Aim for Billion Gallon Output

ATLANTIC CITY, N. J.—A yearly total of one billion gallons of ice cream was set as the production goal by 1955 in an address here recently before the opening session of the International Association of Ice Cream Manufacturers by Harvey P. Hood, president of the group holding its forty-second Annual Convention at the Ambassador hotel.

Meeting concurrently with the Dairy Industries Exposition, IAICM reported a record registration of 3,000, topping any previous convention of the group. A full three-day program of general sessions and sectional meetings laid heavy emphasis on improved industry practices and charted increased efforts in merchandising, advertising, and public relations to achieve the goal of a billion-gallon yearly sale.

Speaking to an opening day audience, which included 50 delegates from England and five from Sweden, President Hood fixed 1946 sales as 700 million gallons.

Proposed Eastern Chiller Installation Will Achieve Volume Wine Cooling

HARTFORD, Conn.—Installation of refrigeration equipment to cool two 5,000-gallon vats of wine from 70° F. to 20° during a seven-hour period is to be undertaken in the near future by Hartford Refrigeration Service, Inc., for G. F. Heublein & Bros., Inc., here, maker of prepared cocktails and A 1 Sauce.

In a description of the system, Hartford Refrigeration said 13 gallons of wine a minute will be circulated through each of two Acme special chillers.

"Each of the chillers," it was explained, "will be mounted over a Curtis 25-hp. shell and tube water-cooled condensing unit and inner-connected with copper tubing and sweat fittings.

"The control for this system will be through a Phillips No. 701 expansion valve and a Model VPWC No. 250 float assembly, all connected in such a manner as to provide fully auto-

matic refrigeration control.

"Each chiller will have an insulated jacket with a metal covering. The ends of the chiller will be so arranged that the end plate can be removed without disturbing any piping connections for internal cleaning of the tubes through which wine flows."

That the wine will not come in contact with any steel, copper, or bronze was pointed out in the following description of equipment to be furnished:

"Two Acme special chillers, 14 in. in diameter x 10 ft. 8 in. effective tube length and steel shell, having stainless steel heads, nickel-clad tube sheets, and stainless steel tubes, so that all parts of the system where wine is in contact with metal will either be of stainless steel or nickel clad."

An Acme oil separator Model No. 3050 will be installed in the system.

Under terms of the contract, Heublein will provide foundations for the equipment, water and drain connections to and from the condensers, electrical work for connecting two 30-hp. motors, and the manual disconnection switch. The owner also will furnish all wine piping to and from the chillers and a pump to circulate the wine, the pump to be inter-connected with the compressor motor so the two will operate simultaneously.

All piping, foundation, and wiring drawings, along with the magnetic controller and intake and discharge thermometers, will be provided by Hartford Refrigeration. Any record-

ing devices are to be supplied by the owner.

Incorporated in 1938, Hartford Refrigeration Service is the oldest of three affiliated companies. The others are Hartford Refrigeration Sales Co., Inc., (two years old in November) and The Tavern Equipment Co. (yet to celebrate its first "birthday").

All three will soon move from 18 Elm St. to a new \$25,000 headquarters at 40 John St. The one-story structure will house a show room, offices, shop, and storage space. A branch office is maintained in New Britain.

Officers of the companies are C. H. Riedle, president, Bertha E. Riedle, and Lorraine G. Woram. Among other personnel are four salesmen and 12 service men, who service "everything in refrigeration and air conditioning."

One of the organization's current projects is the installation of equipment in a locker plant being built on Isham Rd. in West Hartford for Community Cold Storage Co., Inc. This plant, when completely finished, will contain two locker rooms holding 2,000 lockers and will cost in the neighborhood of \$80,000.

Equipment being installed includes a Kramer Thermobank system and three 5-hp. Curtis condensing units for the freezing room as well as the first locker room, a 1½-hp. unit for the chill room, and a 1-hp. unit for the aging room.

Other locker plants equipped by Hartford Refrigeration are at Rockville and Newton. The former is due to be opened soon; the latter has been in operation about a year.

Hartford Refrigeration is particularly proud of one of its major post-war jobs, an installation in the low-temperature storage plant built in Hartford for Roberts, Steele, & Dolan Co., Inc., wholesale grocer. The plant is said to be capable of holding between three and four carloads of frozen foods.

This plant is said to be the first in Hartford equipped with Thermobank defrosting controls. Curtis condensing units and Kramer blower coils comprise part of the installation.

The organization is a Curtis distributor and it holds a franchise for the sale of Uniflow Kold-Draft beer systems. A spokesman reported much recent activity in the sale of beer-dispensing equipment.

May Co. to Erect \$4 Million Store in Phoenix, Arizona

PHOENIX, Ariz.—The May Co. has received a license from Arizona Corp. Commission to do business in Maricopa county and plans to erect a \$4,000,000 store on North Central Ave. here, it was announced recently.

The new Phoenix unit, which is expected here to become a large operator in the appliance field, will be built in a rapidly expanding business section just three blocks north of the city's heavy traffic axis.

250 Bendix Dealers Sign For Poster Promotional

SOUTH BEND, Ind.—A total of 250 dealers for Bendix Home Appliances, Inc., in the Chicago district have signed contracts for early winter showing of 24-sheet posters advertising the Bendix automatic Home Laundry.

Part of a nationwide outdoor advertising program, Walter J. Daily, director of advertising and sales promotion, says it is the largest ever undertaken on a major electrical appliance.

In Chicago proper, 120 dealers are participating. An additional 130 have boards in Oak Park, Blue Island, Calumet City, Hammond, Joliet, Aurora, Elgin, DesPlaines, Evanston, and Waukegan. The balance are in smaller communities of the district.

Department stores in the Pittsburgh district, it was disclosed, have taken 119 poster panels for the fall-and-winter poster program of this manufacturer.

Bowen Takes New Sales Post

SAN FRANCISCO — William A. Bowen, formerly national sales manager for Birds Eye-Snyder, Inc., is the new eastern sales manager for the Western Frozen Foods Co. Mr. Bowen's office will be located at 52 Vanderbilt Ave., New York City.

Laboratory Engineer

Engineer for laboratory developmental testing and rating of heating, refrigeration and air conditioning products. Must be an engineering graduate with several years testing experience. Excellent opportunity with expanding well-known manufacturer of heat transfer equipment.

Box 2098, Air Conditioning & Refrigeration News

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This new dual wheel truck rolls easy as a baby buggy, and the man who operates it won't be nearly as tired at the end of the day. The four 8" rubber wheels give a firm base, make heavy objects easier to load, easier to roll, easier to handle. Unusually resilient durable quality. Tube steel frames. Ht.: 54"; 24" nose. Capacity: 600 lbs. TRY AT OUR RISK. Return express collect if it doesn't fit your needs. Order Monday — get Friday from

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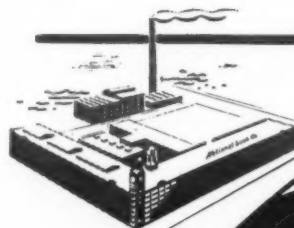
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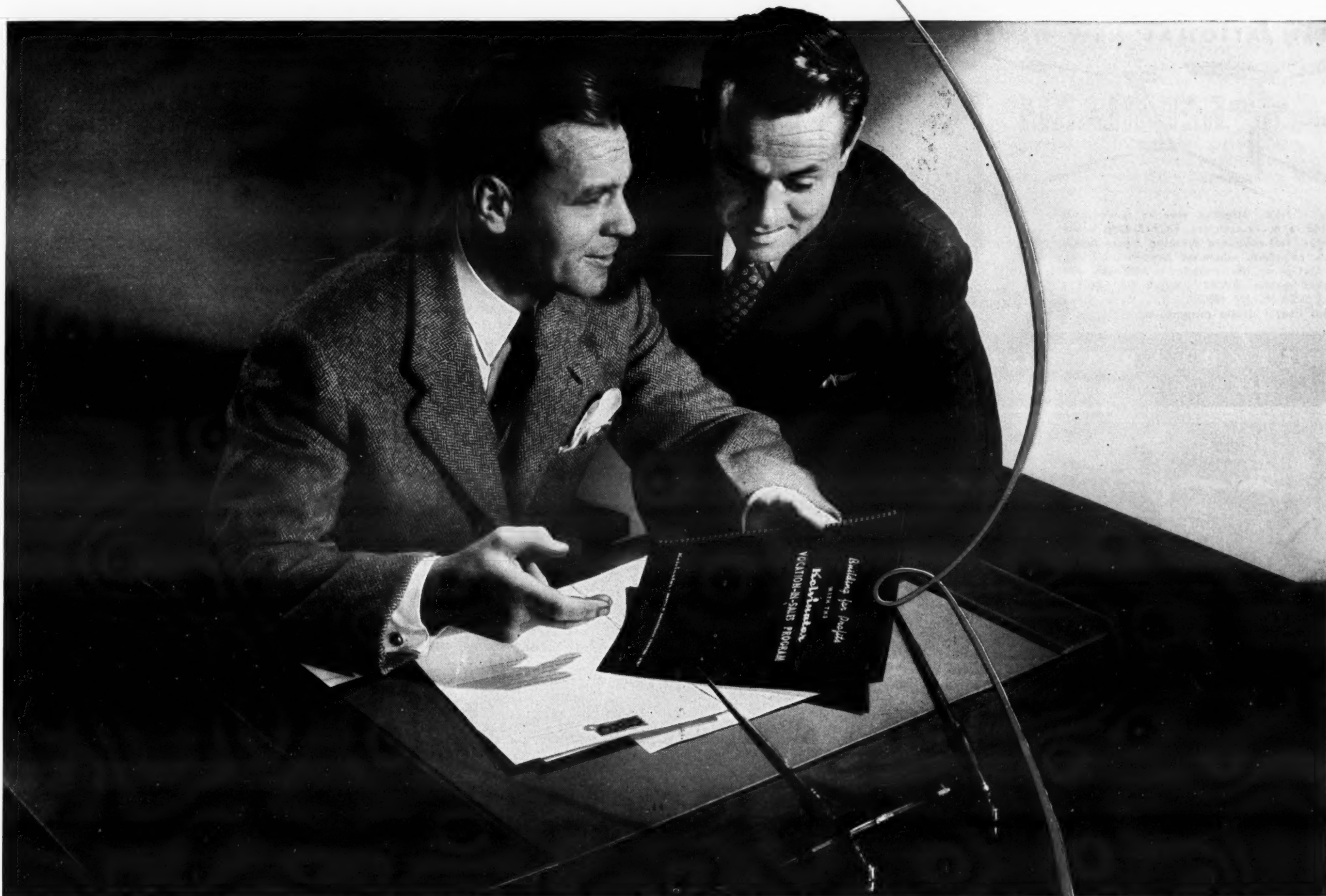
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NATIONAL LOCK COMPANY
Refrigerator Hardware Division
ROCKFORD, ILLINOIS

"We're in this business to build for profits..."



A Kelvinator Dealer says:

"We've been in this appliance business a long time—and we plan to *stay* in it for a long time to come. That's why my partner and I felt we were facing the toughest job of our lives a year or so ago. We weren't interested in just the 'easy' selling. We wanted to build a sales organization for the tough sledding we knew was ahead—and frankly, we knew we'd need help . . .

"When we got acquainted with the Vocation-in-Sales Training Program, though, we learned how to lick that problem. We not only learned where to start—we could see where we were going, and look ahead to coming out on top! Specifically, V.I.S. gives us a sound, workable program for attracting the kind of men we want, for selecting the best of them, and for training

them to be the kind of salesmen and sales force we can be proud of . . .

"We haven't finished that job of ours yet, by a long shot. But we're more than satisfied with progress, because we know that we're *building* something here that will weather all the minor shocks and dislocations that come along. And we know that the profits we're building toward will be profits, not for my partner and myself alone, but for every man in our organization . . ."

In that frank statement about one phase of Kelvinator's over-all program—the Vocation-in-Sales Training Program—the whole philosophy of Kelvinator's way of doing business is aptly expressed . . . a philosophy growing out of a retail-minded way of thinking that governs every phase of Kelvinator's activities, creating proof that the Kelvinator Franchise is . . .

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in the Appliance Industry*

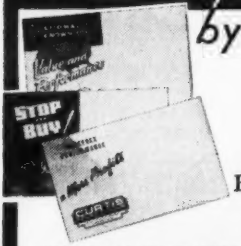


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Supply Shortage -- Exhibited at Dairy Convention --

(Concluded from Page 1, Column 2)

All spokesmen emphasized the great backlog of orders that have resulted in the extended delivery dates on all types of equipment. If present production is not interrupted by strikes and shortages, as in 1946, the delivery picture would be brightened in 1947, it was predicted. Manufacturers were warned that it would be some time before prewar delivery schedules could be expected.

(Concluded from Page 1, Column 4)

Hold "Serpentine" plate, hold-over plates for truck transport, liners for frozen food and ice cream cabinets, and beverage coolers.

The Liquid Carbonic Corp.: A 26-ft. fountain and luncheonette installation had the spotlight in this display. In addition the full line of ice cream cabinets, 4, 6, 8, and 12-hole models, double-row, chest-type; 3 and 4-hole, single-row, chest type, and "bottail" soda fountains as well as the "Robot Control" carbonator.

Nash-Kelvinator Corp.: A glass-enclosed standard "Polarsphere" condensing unit, with a "stroboscope" to stop the action of the mechanism. Also 4-hole single, 4-hole double, 6-hole double, and 8-hole double ice cream cabinets.

C. Nelson Mfg. Co.: Three models of "bottail" soda fountains, 4 to 8 hole self-contained ice cream cabinets, 6-hole, remote type ice cream cabinet, 120 gallon capacity hardening cabinet.

Niagara Blower Co.: A new product on display was the bantam "Aero-Pass" condenser, designed for small refrigeration installation. Said to save 90% of condenser water, the new unit is designed for 1 to 7.7 tons "Freon" capacity and 1 to 6 tons ammonia capacity. Also displayed were the large capacity condenser, dual cooler, fan cooler, and liquid cooler.

Savage Arms Corp.: Three and 4-hole single, chest-type ice cream cabinets, 8, 10, 12-hole double, chest-type ice cream cabinets.

The Stangard-Dickerson Corp.: A cutaway working model of the Stan-

gard tubular evaporator plate featured a display of all-steel ice cream cabinets in 4-hole and 6-hole single and 8-hole double sizes. Also featured was the cabinet construction designed to allow storage of all standard size containers.

Emery Thompson Machine & Supply Co.: Forty-quart "Freon" ice cream freezer, 40-qt. ammonia ice cream freezer, 20-qt. "Freon" ice cream freezer (remote type), 20-qt. "Freon" ice cream freezer (self-contained), 6-ft. "bottail" fountain, Hardening cabinet.

Weber Showcase & Fixture Co.: "Roll-A-Door" and "bottail" soda fountain, 20-ft. frozen food display case, glass doors, 12-ft. frozen food cabinet, metal doors, 12-ft. frozen food display case (glass doors and superstructure), 28-ft. frozen food display case (glass doors and superstructure), 8 1/2-ft. frozen food cabinet (metal doors).

York Corp.: In addition to dairy processing equipment, York highlighted a new-type cold storage door, a FlakIce machine and a first showing of the 16 1/2-cu. ft. home freezer. The 33-cu. ft. frozen food storage cabinet was to have had its unveiling at the All-Industry Show in Cleveland.

A great deal of interest was shown in the refrigerated transport equipment on display at the Exposition by four body manufacturers.

Batavia Body Co., Inc.: A hydraulically operated refrigerating unit with electric circuit plug-in was displayed as a product "of the future." Designed by Eldon F. Miller of this company, patents on the unit have been applied for, although it will not be marketed for some time, according to company officials.

Hackney Brothers Body Co.: Ice cream and frozen food delivery truck, complete with refrigeration unit.

The Herman Body Co.: Low-temperature ice cream delivery semi-trailer.

Robbins & Burke, Inc.: Eight hundred forty gallon refrigerated truck body, complete with refrigerating unit.

Dairy Firms Urged to Maintain Fair Trade

ATLANTIC CITY, N. J.—A sharp warning against returning to the practice of supplying retailers with free storage and dispensing equipment was sounded by Bryan Blalock, Dairy Producers Association of Texas, in an address before the Convention of the International Association of Ice Cream Manufacturers at the Ambassador hotel here.

(Concluded on Page 17, Column 3)

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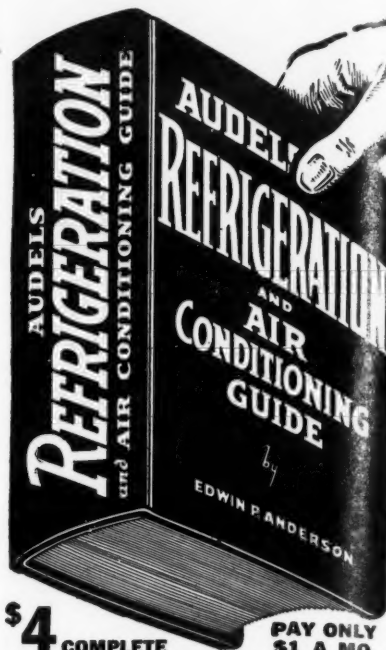
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| <input type="checkbox"/> Nos. 1, 2, 3, 4, 5, 6, 7 and 8 complete | <input type="checkbox"/> 26. |
| <input type="checkbox"/> Answers on Practical ENGINEERING | <input type="checkbox"/> 27. |
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| <input type="checkbox"/> ELECTRICIANS EXAMINATIONS, 250 Pages | <input type="checkbox"/> 29. |
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| <input type="checkbox"/> ELECTRICAL POWER CALCULATIONS, 425 Pgs. | <input type="checkbox"/> 32. |
| <input type="checkbox"/> HANDY BOOK OF ELECTRICITY, 1340 Pages | <input type="checkbox"/> 33. |
| <input type="checkbox"/> RADIOAMANS GUIDE, 914 Pages | <input type="checkbox"/> 34. |
| <input type="checkbox"/> ELECTRONIC DEVICES, 216 Pages | <input type="checkbox"/> 35. |
| <input type="checkbox"/> ELECTRIC LIBRARY, 12 vol., 7000 Pgs., \$1.50 vol. | <input type="checkbox"/> 36. |

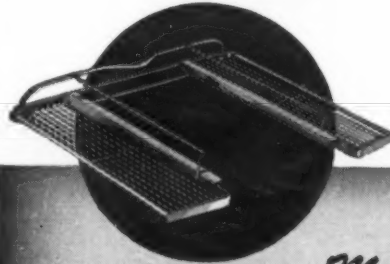
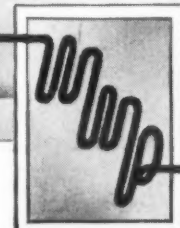
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Employed by _____ R-12

DO YOU KNOW THAT
THE WALL WIRE PRODUCTS
COMPANY MAKES ALL
SORTS OF FORMED AND
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FROM CARBON STEEL AS
WELL AS STAINLESS
STEELS? WE SOLICIT
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WALL WIRE PRODUCTS COMPANY

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Makers of STAINLESS STEEL AND
RETINNED REFRIGERATOR SHELVES AND WELDED WIRE PRODUCTS

ALL-STEEL
450 GRIFF

Refrigeration Cuts Wine Aging on Coast from 2-3 Years to a Few Months

FRESNO, Calif. — Replacing wine aging with refrigeration has been accomplished by the Fresno Winery here with the installation of a 50-ton Baker Ice Machine cooler coil and a 40-ton Cyclops unit.

Reducing the period necessary for "stabilization" of the wine so that it will remain sparkling and brilliant under any kind of shipping or display condition to a few months from the two or three years it formerly took enables the winery to market its products many months ahead of the normal delivery date.

After the wine has passed through the fermentation process and has been cleared of all solids by reagents, it is refrigerated from one tank to another by passing it through either a 50-ton Baker Ice Machine cooler coil, or a 40-ton Cyclops unit operating as a standby. Insulating piping has been installed in the winery whereby new wine drawn from the filters passes over 20-foot refrigerating coils, and is then returned to storage vats, which in cool, dark cellars, retains the temperature set indefinitely.

The refrigeration period is varied for various wines, in each case bringing the "hot wine" down to a predetermined temperature just above its freezing point. There is no refrigeration required in the tanks storage, inasmuch as 3-inch cooperage walls have proven adequate insulation.

One chilling normally precipitates out tartrates and other elements. Tartrates are removed from the wine as cream of tartar by filtering through 36-plate high pressure filters. Wines which require longer to achieve the stabilization point are re-refrigerated from one to three times, taking samples at each trip through the cooling plant. After returning to the storage cellars, all wines are checked on an hourly schedule. As soon as ready to stand shipment, they are pumped into tank cars for the market to make badly needed space for still more "batches."

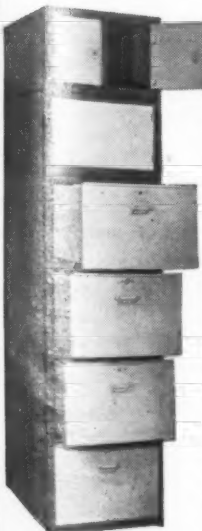
Kelvinator Lines Launched At Eastern Dealer Meetings

PHILADELPHIA — To introduce the new line of Kelvinator and Leonard home freezers and the Kelvinator moist master refrigerator to its dealers, Raymond Rosen & Co., territorial distributor for Nash-Kelvinator Co., recently held a series of dealer meetings in eastern Pennsylvania, southern New Jersey, and Delaware.

J. T. Davis, Jr., Rosen's Kelvinator and Leonard merchandise manager, and William Strandwitz, recently appointed sales training director, conducted the meetings, the company said. Dan Packard, assistant general sales manager of Nash-Kelvinator, is reported to have represented the manufacturer.

A-E FROZ-N-FOOD LOCKERS

NEW PROFITS FOR YOU



Sell Froz-n-Food Lockers. They're the preferred lockers that assure you more profits. And, at the same time, bring customers complete satisfaction. Note their many special features, such as: glide-easy drawer action, long lasting steel construction, beautiful two-tone finish, drawer units shipped factory assembled — these and other features mean a quick selling line, a profitable line.

Write A-E for additional information.

ALL-STEEL EQUIPMENT, INC.

450 GRIFFITH AVENUE AURORA, ILL.

Special Design Replacement Box for Biologicals Aids Storage of Drugs

LITTLE ROCK, Ark. — A specially designed 20-cu. ft. refrigerator recently installed in the prescription department of the Snodgrass & Bracy Drugstore here, has completely solved biological prescription storage and compounding problems for L. K. Snodgrass, store owner.

The Little Rock drugstore, like many other southern stores, formerly used an ordinary household refrigerator to store vaccines, serums, penicillin, and other biological products. This, however, had to be defrosted at regular intervals, with some damage to cardboard packages, labels on bottles, etc.

There are no such problems with the new 20-ft. box, which is so handsome that it is set up in the center of the prescription department where every drug customer may clearly see it.

"This refrigerator uses circulating cold air instead of coils," Mr. Snod-

grass explained. "There are no ice cube trays whatsoever, and constant change of the air eliminates the moisture condition which made it necessary to defrost the old refrigerator every 10 days. We can keep six times as many biological items under constant refrigeration in the unit, and with two doors, it is not necessary to risk the temperature on both sides of the box in order to pick out a single item. There's no defrosting whatsoever, the refrigerator may be opened by a foot pedal if desired, and with two lamp fixtures, the interior is much better lighted."

Mr. Snodgrass spent \$525 for the new refrigerator, having it built largely to his own specification.

"We've needed this type of refrigerator equipment for 20 years," he smiled, "I believe that I'm safe in saying the box will pay for itself in the saving of time and trouble alone."

Guild Distributes Kit to Its New Member Firms

NEW YORK CITY — To help newcomers to the air conditioning and refrigeration service business get started, the Refrigeration and Air Conditioning Guild here has prepared a standard kit which is sent to each new approved Guild member, Nathan Edelstein, executive vice president, has announced.

The kit contains:
a certificate of membership,
a membership card,
two signs bearing the Guild's emblem for window display,
two emergency repair signs for use in the serviceman's car,
two copies of a letter from the city police department protecting the serviceman's car from police interference when the sign is displayed,
copies of standard commercial and domestic refrigeration maintenance agreements,
standard invoice and receipt book forms including standard guarantee, and
a standard "not home" card for use

when the service man calls and the customer is not at home.

"The Guild takes the theory that it will help the industry in general to help beginners in business and therefore all the paper work necessary for a new establishment is contained in the Guild kit," Mr. Edelstein declared.

Lynch Succeeds Williams As Koppers Stores Buyer

HUNTINGTON, W. Va. — Hugh P. Lynch, former professor of business administration at Marshall College, has been appointed a furniture buyer for Koppers Stores here.

His appointment followed the resignation of L. M. Williams as a furniture buyer to become general manager of three Lando Coal Corp. stores, the company said.

Koppers also announced that Jacob Cassell of Indianapolis, who bought for the grocery department, has been named counsellor of groceries to the merchandise department.

The new grocery buyer is Elliott R. Davies, formerly a grocery buyer for the Kroger Grocery & Baking Co.



NEW BOOKLET. Send for your copy of the new, illustrated booklet, "The Eaton Permanent Mold Process," which describes the Eaton Permanent Mold machine, and the Permanent Mold Process. It also includes pointers on designing Gray Iron Castings to be produced by the Eaton Permanent Mold Process.



THE EATON PERMANENT MOLD MACHINE IS A SYMBOL OF THE QUALITY OF GRAY IRON CASTINGS PRODUCED BY THE PERMANENT MOLD PROCESS.



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Wiese Named Head of San Diego Appliance Group

SAN DIEGO, Calif.—Lou Wiese, owner of Wiese's, Ltd., San Diego dealership, has replaced Frank J. Guasti, of Dohrmann's, as president of the Bureau of Radio and Electrical Appliances of San Diego County.

Mr. Wiese has been active in the appliance field and is 1946 president of the East San Diego Chamber of Commerce.

Other new officers are: O. G. Thompson, of G-E Supply Corp., first vice president; Robert L. Swearingin, of El Cajon Supply Co., second vice president; and Sam L. Hall, of Electric Supplies Distributing Co., treasurer. J. Clark Chamberlain is secretary-manager.

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BY A QUARTER CENTURY OF REFRIGERATION KNOW-HOW

Plan your automatic refrigeration installations for a triple advantage: Proved performance, low first cost, low maintenance cost. LIPMAN machines for dependable service in any field of commercial refrigeration are the result of more than a quarter century of manufacturing know-how. Let LIPMAN serve your needs profitably!

GENERAL REFRIGERATION DIVISION

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American
Machine Co.
Beloit, Wis.



In New Post



THOMAS E. JERVIS

Thomas E. Jervis Appointed Carrier Corp. Comptroller

SYRACUSE, N. Y.—Appointment of Thomas E. Jervis as comptroller of Carrier Corp. has been announced by Cloud Wampler, president.

Mr. Jervis, during the war, served as comptroller of the Woodridge Plant of the Wright Aeronautical Corp. Prior to that he was connected with Lybrand, Ross Brothers & Montgomery, public accountants.

He is a graduate of the University of Illinois, and is a certified public accountant.

'Package' Sales Depend on Dealer's Kitchen Planning 'Know-How', Electrical League Told

By John Sweet

NEW YORK CITY—Forget all the wordage on how to sell successfully the complete electric kitchen—the "growing baby" of the major appliance industry.

The "secret" is very obvious: it lies in having trained kitchen planners.

So thinks Kenneth Cook, director of training for American Kitchens, American Central Mfg. Corp., of Connersville, Ind. He told conferees attending the eleventh annual conference of the International Association of Electrical Leagues in New York City recently that it is just the old method of "normal, every-day specialty appliance selling."

The important point is this:

"The housewife doesn't know the answers and she expects your salesman to know them. If he doesn't, she will find a salesman who can give her the right assistance."

If the kitchen dealers are to be successful in the complete kitchen business, Mr. Cook declared, "they dare not be afraid of kitchen planning."

Installation, too, was called one of the most important phases of the business. Poor installations prior to the war, he said, was the big reason so few complete kitchens were sold.

"We believe," Mr. Cook stated, "that one kitchen properly planned and satisfactorily installed will sell from four to seven kitchens in the immediate neighborhood."

He stressed the importance of working out thorough training programs for dealers and their sales and installation personnel. He said this was particularly vital because of the great influx of veterans returning to selling.

"Our training class over the past year has proven to us that this is true," Mr. Cook observed. "Seventy per cent of the people trained were veterans of World War II. Twenty-nine per cent were old appliance men but with no previous kitchen sales experience. Only 1% had ever been in the kitchen business as such."

Weeding Out Dealers

A selective dealer program should be insisted on, also, he said.

"Far too many dealerships have been established since the war," Mr. Cook asserted. "And all this smacks very strongly of the 'grave train' idea. Your appliance dealer associations can do much to curb 'cutthroat' competition and 'borax' deals when the complete electric kitchen business returns again to a buyer's market."

But regardless of how it is accomplished, the speaker summarized, "your dealers must be prepared to plan a complete electrical kitchen."

Good kitchen planning, it was pointed out, simply consists of the correct location of the three major work centers:

3 Major Work Centers

"1—The cooking and serving center, consisting of the range and adjoining base and wall cabinets. This should be located as near to the dining area as possible.

"2—The storage center which consists of the refrigerator and the adjoining base, wall, and utility cabinet. This should be located as near to the rear entrance as possible.

"3—The cleaning and preparation center, consisting of the electric sink and adjoining cabinets. This is the heart of the kitchen and should be located between the other two centers and preferably under a window."

Observing that many dealers, prior to the war, were "very bitter about the kitchen business because they did not know how to properly plan one, using the available units," Mr. Cook proposed that in reality "planning is easy."

"You have known space and known units to put in those spaces," he elaborated. "You have a definite plan to go on and your common sense to fall back on when the known plan will not work. There are actually four fundamental steps in planning a kitchen. These four steps are:

"1. Observation and identification: Practically all kitchens lend them-

selves to either the 'U' type (planning three walls), the 'L' shape (two walls at right angles), or 'Corridor' type, usually long and narrow, where it is necessary to plan the two opposite walls. Observe the layout and identify as to most practical shape to be planned.

"2. Decision—You now decide definitely on the plan you will use, at the same time taking all obstacles into consideration.

"3. Measurement: Measurement is extremely important. You are dealing in inches, so be accurate to the fraction of an inch. Warning: Never depend on the customer's measurements.

"4. Plan the kitchen: You are now ready to plan the kitchen but before any kitchen can be planned you must have the following facts: (a) Dimensions of walls between windows and doors. (b) Width of windows and doors including wood trim. (c) Height of window sills from the floor. (d) Width of refrigerator (including travel of door if any). (e) Width of range.

Visit Prospects Home

"Warn your dealer, however, that the complete kitchen cannot be planned in the store. It absolutely requires a visit to the prospect's home," Mr. Cook said.

In discussing installation, he reminded listeners that "no kitchen sale is complete until the kitchen is completely and satisfactorily installed. Your salesman must know what problems confront the men who make the installation."

Mr. Cook said the salesman should:

"1. Be sure the customer understands what she is buying.

"2. Have a mutual agreement on any extra costs involved.

"3. Explain how obstructions will be handled.

"4. Make notes about unusual things in the job.

"5. Double check all measurements so that the units will fit.

"6. Schedule delivery and installation."

(Continued on next page)



Honeywell has the answer! Temperature controls for high or low temperature ranges — Pressure controls, both light and heavy duty — Room type thermostats to meet any specification — Control accessories which provide full flexibility of application. Some Honeywell Refrigeration Controls are equipped with mercury tube switches, some with open contact snap switches depending upon the design application. There is just the right Honeywell Control for every job. Honeywell branches and jobbers are conveniently located in all parts of the country. Factory trained engineers are ready to assist you with your control problems. Call them or write: Minneapolis-Honeywell Regulator Company, 2807 Fourth Avenue South, Minneapolis 8, Minnesota — Manufacturers of the famous Polartron System of Frost Free Refrigeration.

MINNEAPOLIS
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The Polartron
System of
Frost-Free
Refrigeration

STANGARD
Prime Surface
COLD PLATES
For Maximum
Refrigerating Efficiency



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CORPORATION
46-76 Oliver Street • Newark 5, N. J.
STANGARD KNOWS REFRIGERATION

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Trane Co. Publishes 7th Edition of Air Conditioning Handbook

LA CROSSE, Wis.—Publication of the seventh edition of the Trane Air Conditioning Manual, 376 page handbook for engineers and textbook for students of air conditioning, has been announced by the Trane Co. here.

In its eight chapters, the book covers the subjects of heat, comfort, heat gains, properties of air and the psychrometric chart, calculations for the conditioned air supply, refrigeration for air conditioning, water for air conditioning, and ducts and fans. Seventy pages of reference tables are included to present data in a simplified form and to avoid the time-consuming use of mathematical formulas, according to the company.

One of the most valuable sections of the book, the company believes, is the portion devoted to the properties of air, clarified by illustrations and descriptions on how calculations are made.

Besides the psychrometric charts and cooling load estimate sheets, a specially designed air conditioning ruler to facilitate the computing of air quantities and characteristics is included in the volume.

For students, problems accompany each chapter. The answers are in the back.

Bound in buckram, the book is 8 x 11 in. and is being sold at \$5 per copy.

Wholesaler 'Open House' Emphasizes Firm's Expansion

SEATTLE—An "Open House" formal showing of the extensive remodeling and expansion recently accomplished at the F. B. Connelly Co. plant here is scheduled for Oct. 16-18, Frank C. Porter, vice president of the appliance wholesale concern, has announced.

Counters and shelves in the modernized showrooms have been planned for greater customer convenience in examining goods and as live suggestions for dealers in working out their own store arrangements, Mr. Porter said.

"An endless procession" of new lines are now pouring into the plant, he added.

Electrical Leagues Can Help Coordinate Sales Course In Planning, Installation

(Concluded from preceding page)

After reviewing the wide knowledge and tools that the kitchen installer must possess, Mr. Cook outlined the several ways the dealer can organize installation crews.

"He can hire an outside crew such as a remodeling contractor," it was explained. "He can go to individual building tradesmen such as electricians, plumbers, and carpenters."

"In the average small town this does not pose as great a problem as in the large city. The absence of union labor as well as the fact that most small towns have remodeling men who can handle this type of work simplifies the matter."

"I know of an example here in New York where there is a contract with a remodeling contractor. The prices have been established at \$2 each to install a base or wall cabinet, \$15 to install a single bowl sink at the existing location, and \$25 for a double bowl sink. . . . On the average job the cost of installation usually runs about 10% of the total cost of the sink and cabinets."

Elaborating on the part the electrical leagues can play in the complete kitchen program, Mr. Cook suggested they get together with reputable manufacturers and distributors from each trading area and coordinate planning, sales, and installation training programs. Training ideas, he said, should be tied in with those already in existence.

He urged the leagues to follow the findings of such universities as Cornell, Purdue, Oregon State, and Iowa State which have studied the placement of utensils according to first use in each of the work centers. Mr. Cook advised keeping in touch with the editors of the shelter magazines to get the woman's point of view, and referred to the "invaluable results" of an all-ladies training class at his factory which was attended by representatives of magazines, utility companies, and competitive manufacturers.

Sales training programs, he said, should cover these subjects: product, market, display, how to locate prospects, how to sell, how to overcome objections, how to close a sale, and customer follow-up. A course could

be covered in four two-hour meetings, he stated.

Another step proposed was an exchange of speakers for manufacturers, distributors, and key dealers in each of the major trading areas. This exchange of ideas, he said, "will go far in nurturing a good stimulative business."

During his talk, Mr. Cook demonstrated the company's "Plan-A-Kit," a merchandising vehicle which enables salesmen to solve layout problems through the use of blocks representing the various kitchen units. He warned that many dealers buying from small manufacturers will not receive a planning service.

"Consequently many, many kitchens will be installed as they were prior to the war on a hit-and-miss basis," he said. "This should not be allowed to happen because it tends to sour the many potential customers in recognized trading areas."

Mayor Cuts Tape to Open Wilmington Dealership

WILMINGTON, Del.—Maeson, Inc., claiming to be Delaware's largest and most modern appliance and record store, formally opened recently at 6 West Fourth St., here, with Mayor Joseph Wilson cutting the tape.

Samuel Wachtel is president of the corporation; Leon Stern, vice president; and Mae Wachtel, secretary-treasurer.

Nazi Refrigeration, Air Conditioning Industry Trained U.S. 5-10 Years

WASHINGTON, D. C.—The German air conditioning and refrigeration industry was found to be five to ten years behind the American industry, according to Gunner Berg, investigator for the Joint Intelligence Objectives Agency.

His report on the German industry is now on sale by the Office of the Publication Board, Department of Commerce.

Household refrigerators not only lacked style, but were often put together with nails instead of screws, according to Mr. Berg. Hardware was of steel instead of brass; and the cork insulation substitute, "Iporka," lacked mechanical strength and could not be used in the bottom of the cabinets. Home freezers, the writer reported, had not yet been developed.

The report briefly describes German refrigerators, refrigerants, compressors, condensers, evaporators, control valves, cabinets, cycling controls, and tubing, piping, and fittings. Brief descriptions of 12 German firms visited by the author are also included.

Orders for the report (PB-17558; photostat, \$3; microfilm, 50 cents, 35 pages; dated December, 1945) should be addressed to the Office of the Publication Board, Department of Commerce, Washington 25, D. C., and should be accompanied by check or money order, payable to the Treasurer of the United States.

Admiral Names Hennigh's, Inc., As Distributor for Chicago

WICHITA, Kan.—Hennigh's, Inc., here has been named local distributor for the products of Admiral Corp. of Chicago, W. C. Johnson, Admiral's manager of field activities, has announced.

Jack Hennigh has been active in the radio and appliance field for more than 20 years. Bill Hennigh is also experienced in the field.

For **DEPENDABLE Refrigerants**

"EXTRA DRY ESOTOO"
(Liquid Sulfur Dioxide)

"V-METH-L"
(Methyl Chloride)

Distributors of
"FREON" REFRIGERANTS
11, 12, 21, 22, 113

VIRGINIA SMELTING COMPANY
NEW YORK • BOSTON • DETROIT

CHRYSLER AIRTEMP

HEATING AIR CONDITIONING COMMERCIAL REFRIGERATION

A WINNING COMBINATION

Chrysler Airtemp puts a hard-hitting Triple Line on the field for greater profits every month of the year. It's a line that will make your organization a year-around winner!

Reading left to right in the famous Chrysler Airtemp Triple Line are: Automatic Home Heating, "Packaged" Air Conditioners and Commercial and Industrial Refrigeration.

The heating line is the most complete on the market. It includes automatic heating for homes of all sizes. There are gas, oil and coal fired models—furnaces and boilers; stokers, conversion gas burners, water heaters, and a combination heating and cooling unit.

The well-known "Packaged" Air Conditioners are a simplified form of Summer Cooling, suited for practically every air conditioning purpose.

Chrysler Airtemp refrigeration products, ranging up to 75 h.p., are designed to serve every commercial and industrial refrigeration requirement.

Behind this Triple Line is the engineering and quantity production skill of Chrysler Corporation—plus a long-range policy of national advertising, merchandising and product development.



1, 2, or all 3

There's a Chrysler Airtemp dealer agreement for one, two or all three lines—real profit opportunity all year long. For full details, write . . .

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AIR CONDITIONING
HEATING • COOLING • REFRIGERATION

The Ansul Research Staff REPORTS ON . . .

WAX

CAUSES FROZEN VALVES too!

These photographs show the results of practical machine tests in which 10% oil was circulated with the refrigerant. Valve temperature was approximately -25 degrees Fahrenheit. Every effort was made to exclude moisture. Within a few hours wax separated throughout the body of the expansion valve and the forepart of the expansion coil adhering firmly to the metal.

* Ansul Wholesalers are ready and equipped to render an intelligent, co-operative service to refrigeration engineers and maintenance men on problems which arise from time-to-time in the operation of refrigerating systems.

FOR EXAMPLE:

Samples of ice machine oils submitted by users of Ansul Refrigerants to Ansul Wholesalers, are tested by Ansul Laboratories without charge by the Ansul Standard Wax-Oil Separation Method. This approved method, developed and standardized especially for use in connection with oils used in refrigerating systems, provides an accurate determination of the amount of wax which separates from an oil at low temperatures.



REG. U. S. PAT. OFF.

Ansul refrigerants are available at leading wholesalers everywhere

ANSUL CHEMICAL COMPANY
REFRIGERATION DIVISION, MARINETTE, WISCONSIN
DISTRIBUTORS FOR KINETIC'S "FREON-11," "FREON-12," "FREON-21," "FREON-22" AND "FREON-113"

A wax deposit, about 1/8 inch thick, formed on the plate carrying the ball-valve enclosure and almost completely clogged the outlet of the expansion valve.

REMEDIES

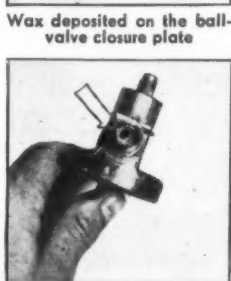
To eliminate wax trouble in expansion valves and coils:

* 1. Use an oil which separates little or no wax from its mixture with the refrigerant at the operating temperature of the valve.

2. Install an oil trap to cut down the amount of oil (and consequent wax) circulating with the refrigerant.

SEND FOR THIS BULLETIN

An informative reprint, "THE SEPARATION OF WAX FROM OIL-REFRIGERANT MIXTURES," will be sent on request. No obligation. Just address . . .



Text of Order Giving Some Dealers 2% Boost In Household Refrigerator Prices

[MPR 598, Order 22]
NEW HOUSEHOLD MECHANICAL
REFRIGERATORS
CEILING PRICES FOR SALES BY
APPLIANCE DEALERS

For the reasons set forth in an opinion issued simultaneously herewith and filed with the Division of the Federal Register and pursuant to section 21 of Maximum Price Regulation 598, it is ordered:

(a) The provisions of section 15, section 17 and section 24 of Maximum Price Regulation No. 598 as they apply to new household mechanical refrigerators sold by appliance dealers are modified in the following respects:

(1) Regardless of the provisions of section 15 and section 24 of Maximum Price Regulation No. 598, or of any order previously issued under that regulation, any person who is an appliance dealer as defined in this order may redetermine his ceiling prices for any refrigerator he purchases which is preticketed with OPA retail ceiling prices determined on or after August 23, 1946, by increasing the retail ceiling price applicable to his sales by 2%, adding the charge for the five year warranty, and rounding the result to the nearest multiple of 25 cents.

(2) Any appliance dealer redetermining his ceiling prices for a particular refrigerator under this order may not remove, cover, or obliterate the manufacturer's OPA retail ceiling price tag but must add a tag or label to the refrigerator which reads as follows:

My adjusted OPA retail ceiling price for this refrigerator is \$.....

(3) For the purposes of this order an appliance dealer is a person, 75% or more of whose total dollar retail sales, during the calendar year 1939 to 1941 was derived from sales of a commodity or commodities the production or retail distribution of which has been reduced, for a period of three years beginning on or after March 2, 1942, by 75 per centum or below such production or retail distribution for the calendar years 1939 to 1941, inclusive, as a result of the operation of any governmental regulation or restriction. A person who was not in business during the calendar years 1939 to 1941, inclusive, is an appliance dealer for the purpose of this order, if 75% or more of his total dollar volume of retail sales during the most recent three month period was derived from sales of a commodity or commodities referred to in the preceding sentence.

In general the persons affected by this order are those whose principal retail sales (as referred to above) consisted of sales of such commodities as automobiles and trucks, household mechanical refrigerators, domestic laundry equipment, domestic vacuum cleaners, domestic electric ranges, domestic sewing machines, radios, domestic dishwashers, small electrical appliances, such as toasters, irons, electric clocks, fans, etc., and other household electrical appliances.

(4) The manufacturer and each distributor shall, at the time of, or prior to the first invoice to each purchaser for resale on or after the effective date of this order, notify the purchaser of the provisions of this order.

(b) All the provisions of Maximum Price Regulation No. 598 continue to apply to all sales and deliveries of articles covered by this order, except to the

extent that they are modified by this order.

(c) Unless the context requires otherwise, the definitions contained in Maximum Price Regulation No. 598 are applicable to the terms used herein.

(d) This order may be revoked or amended by the Price Administrator at any time.

This order shall become effective on the 25th day of October, 1946.

Issued on this 23rd day of October, 1946.

PAUL A. PORTER,
Administrator.

Opinion Accompanying Order No. 22 Under Maximum Price Regulation No. 598

The Price Control Extension Act of 1946 added to the Emergency Price Control Act of 1942, as amended, a new section 2 (q) which provided that, in the case of any retail industry the principal sales of which consisted during the calendar years 1939-1941, inclusive, of sales of a commodity or commodities the retail distribution of which has been reduced for a period of three years after March 2, 1942 by at least 75% as the result of any governmental restriction, the Administrator shall not, in establishing retail ceiling prices, reduce established peacetime retail mark-ups before average retail unit sales of such a commodity for a six month period shall have reached the average annual retail unit sales for the three years, 1939 to 1941.

This office has determined that most electrical appliances for household consumer use such as refrigerators, washing machines, ironing machines, electric ranges, sewing machines, radios and small electrical appliances such as irons, toasters, hot plates, etc. are commodities the average 1939-1941 retail distribution of which was reduced, because of governmental restrictions, by 75% or more for three years since March 2, 1942.

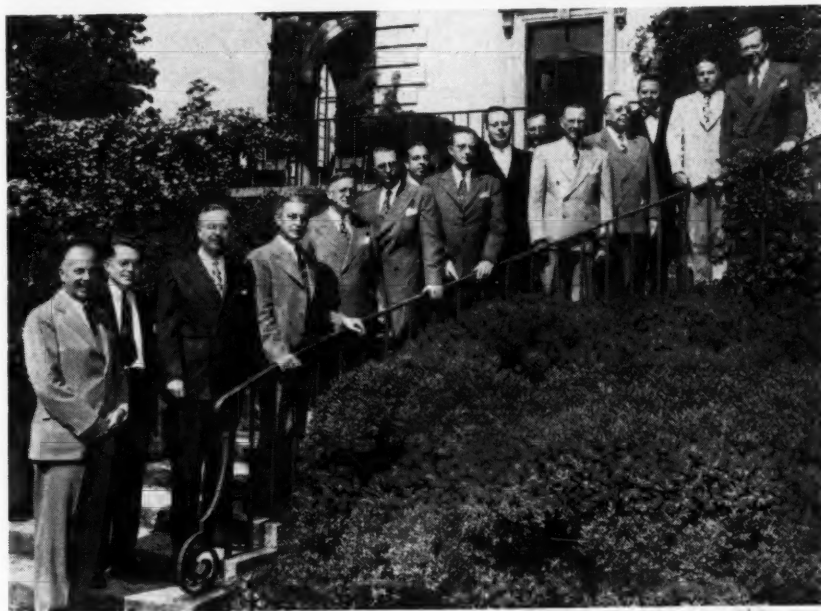
While production and retail distribution of most electrical appliances for household consumer use have, on the basis of all the data available to this office, for a six month period, reached or surpassed the average annual unit sales rate at which they were produced and sold during the years 1939-1941, production and retail distribution of household mechanical refrigerators has not yet reached this level. The mark-ups allowed all retail sellers of household mechanical refrigerators are lower than their normal peacetime mark-ups because they reflect an absorption by such sellers of 75% of a 3% decrease in retail ceiling prices effected by Maximum Price Regulation No. 598 when it was originally issued in October, 1945. Accordingly, it is necessary to establish retail ceiling prices for sales of household mechanical refrigerators which return to retail sellers whose principal sales consisted of electric appliances for consumer household use their normal peacetime markups.

The accompanying order provides that retail sellers who qualify as appliance dealers, i. e., persons whose principal sales consist of commodities whose sales were curtailed by 75% or more may adjust by 2% their retail ceiling prices currently in effect under Maximum Price Regulation No. 598 for resales by any dealer. This adjustment, it has been determined by this office, will return to such dealers on the average the normal peacetime percentage markup received by similar sellers in connection with their sales of refrigerators. Since the manufacturer cannot know, when preticketing his refrigerators, whether they will be sold by an appliance dealer or by some other type of dealer, he is required to continue to preticket with the retail ceiling prices applicable to sales by dealers generally. Provision is made, however, for dealers qualifying for an adjustment under section 2 (q) of the Emergency Price Control Act of 1942, as amended, to add an additional label which states that their ceiling price is the ceiling price properly computed under the accompanying order. In order to permit verification of the correctness of the "appliance dealer's" claim to the adjustment it is also provided that such sellers may not remove the manufacturer's original OPA retail ceiling price label when adding his own tag pursuant to the accompanying order.

To make it clear that all the provisions of Maximum Price Regulation No. 598, except those specifically altered by the accompanying order, continue to apply to all sales of refrigerators by appliance dealers, the order specifies that all the provisions and definitions of Maximum Price Regulation No. 598 continue to apply to all sales covered by the order except to the extent that they are specifically modified by the order. To insure notice to "appliance dealers" of their right to adjust the preticketed ceiling price under the accompanying order, manufacturers and distributors are required to notify all purchasers from them for resale of the provisions of the order.

[F. R. Doc. 46-19316; Filed, Oct. 23, 1946; 11:14 a.m.]

Representing 60 Associated Distributors



Shown attending the Monitor meeting are: W. Westover, J. Nevin, R. Hughes, L. Driscoll, L. Bennett, G. Wasson, W. Stephens, H. Bogart, T. Epsen, L. Falzer, P. Zimmerman, G. Patterson, H. Dahn, Philip Harrison, and T. Quinn.

Monitor Executive Group Meets to Hear Favorable Report on Production

NEW YORK CITY—At a meeting of the executive committee of the Monitor Equipment Corp. held at Monitor House, Riverdale-on-Hudson, N. Y., and representing 60 associated distributing companies covering the country, it was reported that the company showed a satisfactory net profit for the first eight months of the year under existing conditions.

Basing its action upon the results reported, the committee approved a national and local advertising budget which is expected to further promote the Monitor name and line of over thirty home appliance products.

Shortages of certain parts and materials, particularly steel and motors, continue to retard the company's program, it was pointed out. The smaller manufacturing company suppliers are the ones most seriously affected by the shortages, the company stated.

\$365 Retail Ceiling Set for Harvester Frozen Food Cabinet

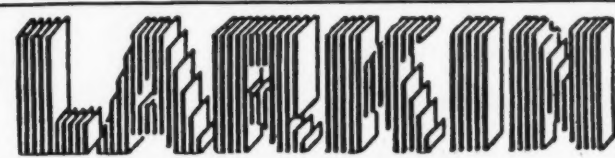
CHICAGO—International Harvester Co. here has been given a retail ceiling price of \$365 for its Model 11FC-A frozen food cabinet.

In Order 804, MPR 591, OPA established this and other maximum prices as follows:

Model	Dis-tribu-tors	On sales to— Serv-icing Non-serv-icing dealers dealers summers
11 FC-A	\$206.55	\$243.00 \$255.50 \$365.00



The Watchdog of the Nation's Food Supply



Refrigeration Products

Humi-Temp Forced Convection Units—Patented CROSS-FIN COILS—Bare Tube Coils—Zinc Fused Steel Plate Coils—Disseminator Pans—Heat Exchangers—Evaporative Condensers—Instantaneous Water Coolers—

See Your Jobber or Write Direct to

LARKIN COILS

519 Memorial Drive, S.E., Atlanta, Ga.

ANNOUNCING...

Redmond Styling Service

FOR DRESSING UP THE PRODUCT



An Unusual Service for Redmond Customers

WITHOUT cost, Redmond customers are provided with a remarkable new styling service for attaining the finest modern appearance in their products.

Attractive product styling is recognized today as essential to effective merchandising. To make the best in styling available to every Redmond customer, Redmond Company, Inc.,

has retained the services of a qualified styling organization.

Brilliant talent is now at the disposal of Redmond customers, ready with new ideas, ready to assist in creating beautiful products. It is only necessary for users of Redmond Micromotors to contact Redmond Company, Inc., to avail themselves of this unusual free service.

Redmond COMPANY, INC., OWOSSO, MICHIGAN



10 DAY SERVICE

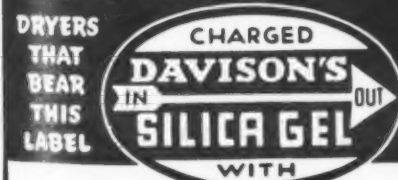
Factory Rebuilt Units **\$3995**
(ALL MODELS EXCEPT "C")

- Genuine Grunow Parts.
- Guaranteed 6 months.
- Just unfasten bolts holding board and ship complete.

GRUNOW

AUTHORIZED SERVICE, INC.
4313 W. Fullerton Ave., Chicago 39, Ill.

SPECIFY...



—the label that is your guarantee of maximum performance and satisfaction. Your jobber stocks it—for refilling and in factory charged dryers.

Heat Transfer Design Engineer

Engineer for designing and lining up for production new heating, refrigeration and air conditioning products with a long established nationally known heat transfer equipment manufacturer. Must be graduate of accredited engineering college with several years experience in heating, refrigeration and air conditioning fields. Experience in heat transfer and fluid flow, also in manufacturing processes such as all types of welding, brazing, soldering and forming of steel, brass, copper, aluminum, etc., desirable.

Box 2099, Air Conditioning & Refrigeration News

INSIDE DOPE

by GEORGE F. TAUBENECK

(Continued from Page 1, Column 1)

Do you think that your call to "middle class people" to "rise up in righteous wrath" and bring about the destruction of labor's rights as guaranteed by the Wagner and Norris-LaGuardia acts will contribute to "the spreading of happiness and tolerance and friendliness?" I think not.

Nor are you consistent in yet another way. You denounce "government control," yet in your editorial you call for legislation curbing labor, which means more government control.

You use a rather ridiculous analogy for the purpose of comparing me to Gerald L. K. Smith. You argue: I am a minister who takes an interest in "temporal" affairs: Smith is a minister who takes an interest in temporal affairs: therefore I am like Smith.

As I have indicated above, I believe all ministers should take an interest in worldly affairs in order to realize their religion in its fullness.

But men are still free to choose their religion—and one of the tests must be what that religion would have men do in their personal lives and in society. Some men seem to want a religion of race hate and religious intolerance; others prefer a religion of private gain and property rights; and still others desire a religion of love and service and human rights.

You say you know from your business experience that industrialists in

fascist countries did not like that system. They had financed it only to find that once the system was in power they could not change it. The fact that they did finance it to destroy the unions is a matter of fact, not of opinion. Fritz Thiessen, German industrialist, publicly admitted this, and it has been corroborated by many documents discovered since the occupation of Germany. On the eve of fascism these industrialists, like your editorial, called upon the middle class to rise up against labor.

It is to be hoped that American industrialists have learned the lesson of this experience. Or do they think they will be able to control the fascist Frankenstein (sic) they would create.

You defend the sponsors of the Committee for Constitutional Government for their "resistance to alien forces which are attempting to undermine" America. I would remind you that there are some American forces which also seek to undermine America. Among these are the Gerald Smiths and the Bilbos who preach race hate—and the American business man who preaches labor hate. The official propaganda "line" of fascism has more than once been expounded over here by the Hearst press and Gannett's Committee for Constitutional Government. Can it be you do not recognize this?

Finally, do not ask me—or any preacher—to separate religion from every day life. That would be a death blow to all religion. I shall continue to make specific application of my religion to the problems of the day. I shall continue to defend the rights of the underprivileged, which is the function of the Workers Defense League. I shall continue to criticize those like you who, wittingly or not, seek to destroy those rights.

ARON S. GILMARTIN, Chairman
National Executive Board,
Workers Defense League

Challenge to Debate

Dear Rev. Gilmartin:

It came as quite a surprise to learn that the chairman of the Worker's Defense League of New York City is also the minister of the Unitarian Society of Fort Wayne, Ind. Somehow, I had pictured your background as being quite different.

Your affiliation with a sect whose historical antecedents I have admired, and whose independent tenets are

Portrait of a Liberal



—Rube Goldberg in the New York Sun

indeed rational, makes it even more difficult to understand why you have chosen to be militant and possibly even quarrelsome rather than to be a peacemaking exponent of the ideal of universal brotherhood founded upon love.

Since you are obviously spoiling for a fight, I'll try to make you happy. You are hereby challenged to a public debate on the subject:

"RESOLVED: The Wagner Act has fomented labor management strife, instead of abating it."

You may choose the site for this debate, and even issue the invitations. The time, of course, should be mutually acceptable.

Our previous arguments have been carried on via the printed page in the publication for which I have written for so many years—which obviously has been an advantage for the writer. To be utterly fair, a continuation of this argument should be conducted in an atmosphere more advantageous to you. As a preacher, you are undoubtedly skilled in speech, and by choosing the site for the debate you can assure yourself of a favorable audience.

Why should a writer be so generous as to allow a speaker the choice of weapons? Because the affirmative of the proposition to be debated is so true that I can't see how anybody could uphold the negative successfully.

Just to goad you a little bit further, I'd like to take two or three pokes at random statements in your letter.

(1) You say: "I shall continue to defend the rights of the underprivileged." Continue? When are you going to start? The underprivileged in America today are those who don't belong to labor unions.

(2) You say that Fritz Thiessen and certain other German industrialists helped finance Hitler and the National Socialist party in Germany—thereby drawing the ridiculous deduction that businessmen everywhere favor "fascism."

Brother, people who have large means at their disposal have often backed bad horses politically as well as at the track. John Jacob Raskob financed F. D. Roosevelt, as did John L. Lewis (who shelled out the largest political campaign contribution in American history). Even more astounding and unfathomable is the fact that a group of wealthy Florida men are financing Senator Claude Pepper in his Russia-is-always-right, America-is-always-wrong speechmaking tours.

Corporations in the United States are debarraged by law from making large contributions to political parties. Monopolistic labor unions are the extravagant subsidizers of aspiring candidates nowadays.

(3) You accuse me of being a "labor hater" because I attacked the Wagner Act and those union leaders who abuse their above-the-law special privileges which that unfair act bestows upon them. And in your first letter you called me a "fascist."

By resorting to worn-out and meaningless epithets you—an ordained preacher—have descended to the name-calling level of street fighting. And by deliberately blinding yourself to the inequities of the Wagner Act and to the manner in which the power it has bestowed upon union leaders has corrupted them ("all power corrupts; absolute power corrupts absolutely") you have revealed yourself to be intolerant. You even speak of "my religion."

That's my big point, Rev. Gilmartin. As a Man of God, you should be above the quarrels and the street-fighting indulged in by men whose interests are of the world, worldly, and of the earth, earthy.

A man of your calling should set an example for the rest of us. Lesser men like myself should be persuaded, by tolerance and gentleness and sweet reason, that brotherly love should rule human relations, rather than conflict.

Instead, you're out in the battle arena, swinging wildly, hitting in the clinches, and hurling epithets like

"labor hater" and "fascist."

What this world needs is a return to other-worldliness. Human beings are animals infused with a touch of divine spirit. Animalism is dog-eat-dog and the devil-take-the-hindmost instinctive action. Instinctive action is selfish. Spiritual ideals are unselfish. True religion, which teaches that a man may gain the whole world yet lose his own soul, has been pushed aside lately by materialistic ideologies which emphasize animal satisfactions at the expense of spiritual glories.

Ministers of the Gospel should lead us back toward unselfishness and meekness and love, Rev. Gilmartin. Calling a man an SOB just because he doesn't agree with you won't make him love you. All it does is make him more determined than ever to fight for what he thinks is right.

To repeat: You should be a conciliator, rather than an aggressor. The world needs more men dedicated to the promulgation of spiritual values. You cannot serve both God and Mammon.

GEORGE F. TAUBENECK

What Subscribers Say

That original exchange of letters with the chip-on-the-shoulder Dr. Gilmartin drew a heavy response of letters from subscribers, all of whom had plenty to get off their chests. Following are some representative samples:

United Refrigerator Mfg. Co.
2341 University Ave.
St. Paul, Minn.

Editor:

Congratulations. Your "Inside Dope" of Sept. 23 has my complete endorsement. Bravo!

R. S. WIEDING,
President

Monroeville, Ind.

Editor:

Just a few lines to congratulate you on the way you expressed yourself in your self-styled pamphleteering in the Sept. 23 issue of the NEWS.

I wonder what Thomas Jefferson would say if he could come back in our time and see the way that selfish interests are deliberately throttling the democracy which he tried so hard to set up.

A man of truly democratic thinking is getting harder and harder to find in this day of ours. Keep up the good work and above all be sincere in your efforts.

J. K. MARQUARDT

(Concluded on Page 13, Column 2)

SAVE YOUR TIME BUY BY MAIL

Washington D. C. dealer writes:

"Many thanks for your very fine service and promptness in filling our orders. We honestly find it more convenient and infinitely more satisfactory in every way, to buy from your firm, in Chicago, rather than chasing around trying to find similar material here in Washington."

Air Conditioning and
Refrigeration

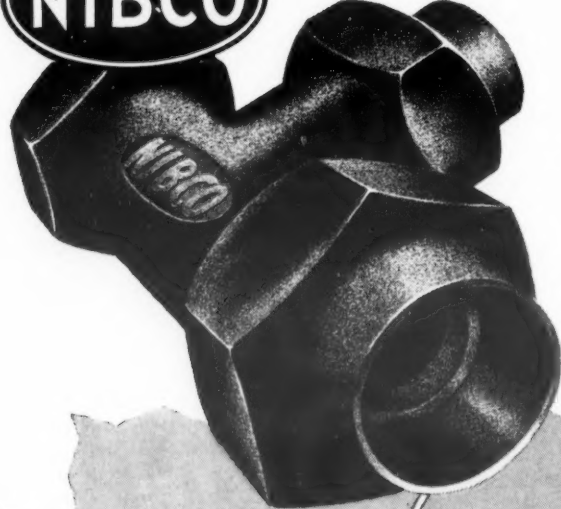
Parts - Tools - Supplies
Shop Equipment

Request Catalog on Your Letterhead

AIR SUPPLY CO. INC.
SERVICE 2732 N. ASHLAND
COVERS THE NATION CHICAGO 14, ILL.
Dept. B.

FLARED TUBE FITTINGS

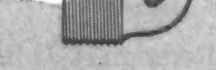
NIBCO



Complete range of sizes from 1/8" to 3".

A wide variety of types is available.

Write today for a copy of Catalog 614.



FOR USE WITH SOFT DRAWN COPPER TUBES

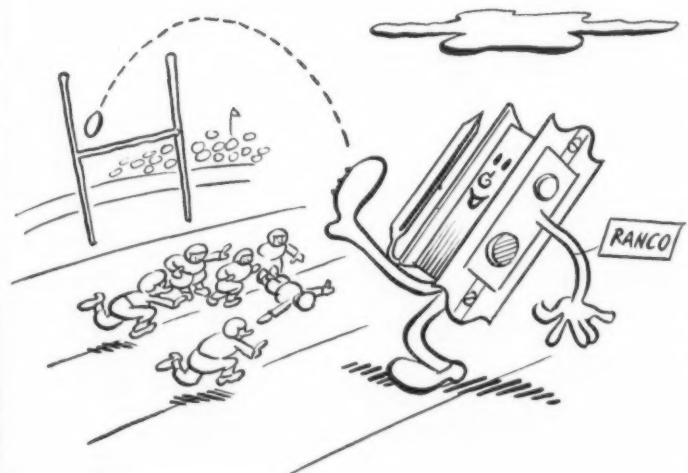
NIBCO Flared Tube Fittings for use with soft copper tubes make a tight and ever-lasting joint without using heat, solder or cutting threads. The copper tube is flared against the fitting nose and is drawn tight by the union nut. No gaskets are needed. Because soft drawn copper tubes can be readily run through partitions and under floors, you'll find NIBCO Flared Tube Fittings ideal for modernization work. Get the facts now! Write today for Catalog.



NORTHERN INDIANA BRASS CO.

ELKHART, INDIANA

VALVES AND FITTINGS SINCE 1904



Ranco WINS ON POINTS . . .

Point for point comparison proves Ranco Refrigeration Controls are the finest.

Ranco Alone has ALL of these important features in commercial refrigeration controls—

Rust, corrosion resisting stainless steel parts—
Precision machining and assembly—
Uniform fixture temperature—
Uniform high relative humidity—
Completely automatic coil defrosting—
Controlled air circulation—
Visual scales showing exact cut-in and cut-out points—

Yes, Ranco wins on points—that's why Ranco is the world's largest manufacturer of commercial and domestic refrigeration controls.

See Your Jobber

Ranco Inc. COLUMBUS 1, OHIO

OPA Issues Prices on 2 Coronado Electric Ranges

WASHINGTON, D. C.—Wholesale and retail ceiling prices were announced recently by OPA for two models of Coronado private-brand electric ranges manufactured for sale by Western Auto Supply Co., of Los Angeles, and Gamble Skogmo, Inc., of Minneapolis.

Maximum prices allowed Western Auto Supply were established by Order 328 and those granted Gamble Skogmo by Order 329. Both orders were issued under MPR 64.

For sales by both companies to retail dealers, the ceilings, including delivery and the Federal excise tax, were as follows:

Coronado Model No.	Zone 1	Zone 2
47-6431	\$135.38	\$147.51
47-6432	161.14	175.60

OPA authorized the following maximum prices for sales by retail dealers to ultimate consumers:

Coronado Model No.	Zone 1	Zone 2
47-6431	\$184.00	\$191.50
47-6432	219.00	228.00

These prices include the Federal excise tax, delivery, a one-year warranty, and installation when the latter requires only connection to electric facilities provided by the consumer. Dealers are permitted to add \$3.50 if a range cord set is required and furnished by them.

Opinions accompanying the orders said the resale ceiling prices were determined "by applying to the invoice cost to each group of sellers a percentage markup equal to that received by the groups of sellers on the most comparable stoves which they handled during the base period."

INSIDE DOPE

by GEORGE F. TAUBENECK

(Concluded from preceding page)

Superior Valve & Fittings Co.
1509 W. Liberty Ave.
Pittsburgh 26, Pa.

Editor:

When I started to read your column in the Sept. 23 issue of the NEWS I didn't know what I was in for until I reached page 6 thereof.

This message is intended to be a sincere word of praise for the position you have assumed and the clarity with which you use your ability to set forth the position of a real American. I admire—yes, envy—your courage and wish I had the time and the courage to take the stand that you are taking.

Thank God that we still have the right to speak our minds and let us hope that future elections will bring out a much higher percentage of the available vote, that we may have a truly representative government. What I mean by that is representative of the wishes of the vast majority of the people instead of the relatively few.

Believe me.

J. S. FORBES

B. H. Spinney Co.
62 Hampden St.
Springfield, Mass.

Editor:

Since getting back on the job, I have reverted to some of my old habits—one of them the reading of REFRIGERATION NEWS—and, of course, in the process I read your Inside Dope column, and I have been greatly impressed by the depth and wisdom

of your writings, particularly with your editorial, "What's the Matter with America?"

Again, in your issue of Sept. 23, 1946, which I have just read, I was greatly pleased with the way you took the Reverend Aaron S. Gilmartin apart and put him together again. I suppose I think you're a great guy because you so lucidly express my own opinions.

I have never written to a newspaper. I write my congressmen and senators only when I am intensely moved by some piece of legislation that is before our legislators. I write you now just to add one more slap on the back for a well-done job, and also to ask if you have just one more copy of "What's the Matter with America?" left, that you might send along to me, because I cannot find the copy of REFRIGERATION NEWS in which it appeared.

B. H. SPINNEY

Merchandise Mart
216 S. Main St.
Union Furniture
228 S. Broadway
Poplar Bluff, Mo.

Editor:

I have been a reader of your editorials for some time now, and I might say, most profitably—as well as with a very high measure of approval.

I am "small fry" in the retailing of appliances by comparison, but I am concerned about the condition of our country, as well as our condition of an uneconomic economy.

You know, for unwise reasons, I voted for the New Deal four times but now seeing the error of my ways, one of the things I am living for, is to see this un-American, controlled, regimented gestapoed, hamstrung Ameri-

can way of life—being foisted and enforced on us under the New Deal—discredited and voted out of office forever. It would seem too, that the period of reconversion is to be a permanent period, thanks to New Deal labor ideas.

I was greatly interested in your editorial, answering the "Reverend" Mr. Gilmartin, who would do much better to tend to his own "knitting," if he, indeed, actually knows what that should be. Or get out of his profession, and sell communism, life insurance, sewing machines, or soap boxes. These fellows and their kind, are "blind leaders of the blind" and both will fall into the ditch if their ideologies succeed in going into operation.

You and I both know it may not at first be popular to oppose any un-American-American clergymen. And so, I take my hat off to you for your courage in taking issue with these "robed reds." Let us label them for what they are.

In passing, it should not be overlooked that no unreligious out-and-

out Red is any more set against our present system of government than these bosom friends of Communist Russia. And their number is legion. They completely dominate many of the largest Protestant bodies. They control their theological schools, their church youth colleges, their publications.

Most uninformed people do not know the tragic condition of large sections of our religious leadership. Perhaps no more active or vengeful cross section of our people are in opposition to our present system as this pro-red group.

While I know you are not committed to embarking on a campaign against the clergy, yet to me it is the sheerest folly not to recognize who our enemies are, regardless of where we find them. I might add I have been a Christian and a church man all my adult life, in order that any possible wrong impressions may have been given.

More power to you in your fight.

W. J. MEADOWS

NOW! Complete Stock Prompt Shipment

FORGED FLARE NUTS AND FITTINGS

Electromatic

2100 INDIANA AVE CHICAGO 16 ILLINOIS



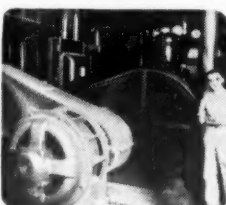
Three Large Frick Machines Serve This Synthetic Rubber Plant at Institute, W. Va.

INDISPENSABLE IN INDUSTRY--



Refrigeration

Whether you operate a chemical, textile, metal working, or food processing plant, you can likely do it better—give better



Frick Refrigeration Aids Two St. Louis Firms in Making Films

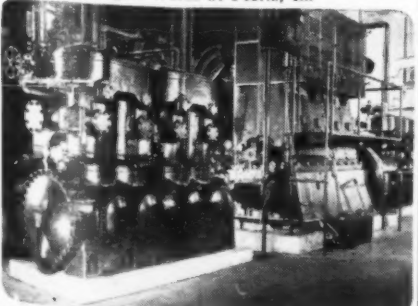
service and earn better profits—with the aid of Frick refrigerating, ice-making, or air conditioning equipment.



The Celanese Corp. of America Has Used These Frick Machines Since 1929.



4900 Tons of Frick Refrigeration Air Condition The Caterpillar Engine Works at Peoria, Ill.



E. V. Platt Heads Paragon In Reorganization Move

TWO RIVERS, Wis.—To gain closer coordination of all operations to better handle its expanding post-war business, Paragon Electric Co., manufacturer of time controls, has consolidated its main office, formerly in Chicago, with its factory here.

The company also announced the promotion of E. V. Platt, for many years executive vice-president, to the presidency of the firm. In addition, Mr. Platt will continue as general manager.

Paragon's output will be increased three-fold as a result of enlargement of the plant, installation of new machinery, and adapting all operations to the conveyor system, a company release said.

A recently consummated issue of common and preferred stock has enlarged the capital structure of the company, the release declared.

For the benefit of trade in the Chicago area, the company will maintain a district sales office at 37 W. Van Buren St.

Since 1905, Paragon Electric Co. has planned, designed, and manufactured time switches, industrial timers, and other time control instruments, the release stated. Paragon now makes everything going into its products except the motors, which are Warren Electron, it added.

1947 Retail Appliance Market Potential Seen Hitting \$1,980,000,000

COLUMBUS, Ohio—A national retail market potential of \$1,980,000,000 for major appliances in 1947 was depicted by W. F. Linville, general sales manager for Bendix Home Appliances, Inc., South Bend, Ind., in an address here before the Columbus Electric Dealers' Association.

Mr. Linville declared that the strategically-located Columbus trading area, constituting 1.2% of the national market, will account for \$23,760,000 of the total estimated national market potential for next year.

For the Columbus area, the 1947 market potential was broken down by Mr. Linville as follows: Washing machines, 37,200—\$4,584,000; electric ironers, 4,800—\$469,000; clothes dryers, 1,800—\$288,000; refrigerators, 101,600—\$7,752,000; radios, 210,000—\$7,450,000; ranges, 10,800—\$1,728,000; vacuum cleaners, 26,400—\$1,584,000.

For Efficient Refrigeration Use Proved and Improved Controls

Here is efficient, unsurpassed refrigeration equipment. Specifically designed for the control of Freon, Sulphur-dioxide, Methyl-chloride and Ammonia. Also air, water, gas, light oil, etc. Suction lines or hi-pressure liquid lines.

K-15 and K-20 Series. Magnetic liquid and suction stops. The direct acting single seated needle valves and the piloted piston valves respectively. All valves are held open electrically, thus eliminating unnecessary compressor burdens. Tight shut-off for fractional tonnage installations. Features are Die-forged bodies, Hardened steel needles, Corrosion-proof internal parts, Gasketless construction, Integral mounting features, Moisture-proof high pressures. Single or dual voltage coils.

V-200 Thermal Expansion valve. Interchangeable Orifice Cartridges permit proper sizing on the job, making this literally six valves in one. Unmatched sensitivity, semi-liquid charged; may be placed in ambient temperatures higher or lower than bulb temperatures with no loss of control. Frictionless pusher-pin, ample diaphragm, plus balanced, low-rate adjusting spring. Carefully lapped hard-faced ball insures tight shut-off.

Strainers S-5 Series. The importance of suitable strainers ahead of a flow control device, such as automatic or regulating valves of any kind for long operating life, cannot be too heavily stressed. Bronze, iron or semi-steel bodies, Monel, reinforced bronze or felt screens, 3/16 to 120 strainer meshes.

For complete specifications on these and other refrigerant controls in the broad General Controls line, write for the new 1946 Catalog 52C. Send request to your nearest Factory Branch, Distributor or Refrigeration Supply House.

GENERAL CONTROLS
601 ALLEN AVENUE GLENDALE 1, CALIF.

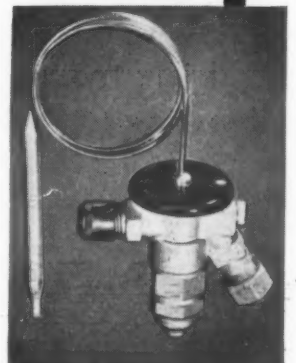
FACTORY BRANCHES: PHILADELPHIA • ATLANTA • BOSTON • CHICAGO • DALLAS
KANSAS CITY • NEW YORK • DENVER • DETROIT • CLEVELAND • PITTSBURGH
HOUSTON • SEATTLE • SAN FRANCISCO • DISTRIBUTORS IN PRINCIPAL CITIES



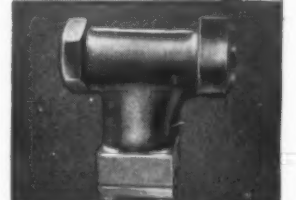
K-15



K-20



V-200



S-5-2



S-5-3

Listing of Retail Ceiling Prices On Household Refrigerators

Editor's Note: These retail ceiling prices for mechanical refrigerators are base prices that dealers will continue to use. Where the dealer is eligible for the 2% boost under Order 22 of MPR 598, however, he should follow the formula outlined in the News story on page 1.

The retail ceiling prices for mechanical refrigerators listed below include:

- (1) Delivery.
- (2) The following warranty:
For electric refrigerators, a five-year warranty.
For gas and kerosene refrigerators, the warranty customarily given by each dealer. (Dealers who provide no extended service agreement beyond the manufacturer's one-year warranty must subtract \$4.00 from the ceiling price listed.)
- (3) The Federal Excise Tax.
- (4) Installation. (Dealers are not required to provide more than 5 ft. of pipe or tubing for the installation of a gas refrigerator.)

State or local taxes can be added to the prices listed.

Admiral

Admiral Corp., Chicago.

Model Number	Zone 1	Zone 2	Zone 3
TD-746	\$351.95	\$356.95	\$361.95
TD-946	392.95	397.95	402.95
CS-746-A	211.75	216.75	221.75
CS-946-B	245.25	250.25	255.25
CD-746	267.50	272.50	277.50
CD-946	299.95	304.95	309.95

This manufacturer uses the following pricing zones:

Zone 1: Illinois, Indiana, Kentucky, Missouri, Ohio, and West Virginia.
Zone 2: Alabama, Arkansas, Connecticut, Delaware, Georgia, Iowa, Kansas, Louisiana, Maine, Maryland, Massachusetts, Michigan, Minnesota, Mississippi, Nebraska, New Jersey, New Hampshire, New York, North Carolina, North Dakota, Pennsylvania, Rhode Island, South Carolina, South Dakota, Tennessee, Vermont, Virginia, and Wisconsin.
Zone 3: Arizona, California, Colorado, Florida, Idaho, Montana, Nevada, New Mexico, Oklahoma, Oregon, Texas, Utah, Washington, and Wyoming.

A. M. C.

Associated Merchandising Corp., New York City.

Model Number	Zone 1	Zone 2	Zone 3
MBS-66	\$153.50	\$158.35	\$163.20
MBD-66	175.00	179.85	184.70
AMD-786	204.25	209.10	212.90
A-736-S	164.75	169.60	174.45

This manufacturer uses the following pricing zones:

Zone 1: Wisconsin, Michigan, Illinois, Indiana, and Ohio.
Zone 2: North Dakota, Minnesota, South Dakota, Iowa, Nebraska, Missouri, Kansas, Oklahoma, Arkansas, Kentucky, Tennessee, North Carolina, Virginia, West Virginia, Maryland, Delaware, Pennsylvania, New Jersey, New York, Connecticut, Rhode Island, Massachusetts, New Hampshire, Vermont, Maine, and the District of Columbia.
Zone 3: South Carolina, Georgia, Florida, Alabama, Mississippi, Louisiana, Texas, New Mexico, Colorado, Wyoming, Montana, Idaho, Utah, Arizona, Washington, Oregon, Nevada, and California.

Bullock's Snow Cap

Bullock's, San Francisco.

Model Number	Retail Ceiling Price
MBD-66	\$175.00

This manufacturer does not use pricing zones.

Coldspot

Sears, Roebuck & Co., Chicago.

Model Number	Zone 1	Zone 2	Zone 3
45126	\$156.00	\$161.00	\$166.00
45236	200.75	205.75	210.75
45326	206.25	211.25	216.25
45238	236.50	241.50	246.50
45428	251.00	256.00	261.00
463270	172.50	177.50	182.50
464270	217.50	222.50	227.50
464290	243.95	248.95	253.95

Note: These prices do not apply to mail order catalog sales.

This manufacturer uses the following pricing zones:

Zone 1: Includes the following zones as defined in the regular Sears-Roebuck retail pricing map: K1-K5, L1-L4, Q4.
Zone 2: Includes the following zones as defined in the regular Sears-Roebuck retail pricing map: H1-H7, M1-M6, Q1-Q3, Q5, R1-R6.
Zone 3: Includes the following zones as defined in the regular Sears-Roebuck retail pricing map: N1-N4, S1-S3, SC1-SC4, T1-T4.

Crosley

The Crosley Corp., Cincinnati.

Model Number	Retail Ceiling Price
SS-746	\$168.75
SE-746	222.50
SE-947	263.95

This manufacturer does not use pricing zones.

LOOK FOR THESE---WHEN BUYING REFRIGERATION & AIR CONDITIONING SUPPLIES

- ★ One Stop Supply Service ★ Complete Stocks ★ Fast Delivery
- ★ Friendly, Courteous Service ★ Helpful Engineering Advice
- ★ Easy to use Catalog ★ Strictly Wholesale Prices

PLUS 17 years experience serving the Refrigeration and Air Conditioning Industry exclusively.

CHASE REFRIGERATION SUPPLY COMPANY
546-48 West 119th St., Chicago 28, Illinois

Frigidaire

The Frigidaire Division, General Motors Corp., Dayton, Ohio.

Model Number	Retail Ceiling Price
AHI-4	\$152.00
AHI-6	156.00
SI-7	162.50
MI-7	179.25
DI-7	198.00
DPI-7	224.00
DI-9	249.25
CDM-7	286.25
CPDM-7	312.50
CPDM-9	351.25

This manufacturer does not use pricing zones.

General Electric

General Electric Co., Bridgeport, Conn.

Model Number	Retail Ceiling Price
LB-6	\$148.50
JB-7	209.25
B-7-C	232.75
LB-7	168.00
LBX-7	183.75
BH-7A	209.25
BY-4	169.50

This manufacturer does not use pricing zones.

A charge of \$4.75 may be added if refrigerator is sold equipped with a left-hand door.

Gibson

Gibson Electric Refrigerator Corp., Greenville, Mich.

Model Number	Zone 1	Zone 2	Zone 3	Zone 4	Zone 5
F-666	\$194.25	\$197.25	\$200.75	\$203.25	\$206.25
F-686	221.50	224.50	227.50	230.50	233.50
SF-796	287.50	290.50	293.50	296.50	299.50
C-786	243.25	246.25	249.25	252.25	255.25

(This manufacturer uses a complicated setup of pricing zones which is too lengthy to be given here.)

Hotpoint

Edison General Electric Appliance Co., Inc., Chicago.

Model Number	Retail Ceiling Price
EA 6-0	\$148.50
EA 7-0	168.00
EA 7-1	183.75
EB 7-1	209.25
EC 7-0	232.75

This manufacturer does not use pricing zones.

Kelvinator

Nash-Kelvinator Corp., Detroit.

Model Number	Retail Ceiling Price
CS-7	\$163.00
C-7	190.75
CD-7	206.50
M-9	282.25
C-3	135.25
CF-3	140.75
C-4	152.00
CB-6	140.75
M-7	238.75
C-9	238.75
MM-9	317.00

This manufacturer does not use pricing zones.

A charge of \$2.50 may be added for refrigerators equipped with a non-standard swing door.

(Continued on following page)

Admiral Delivers Dual-Temp Floor Samples to Some Michigan Dealers

DETROIT—Local dealers got their first look at the Admiral Dual-Temp refrigerator last week when Brennan Appliance Distributors, Inc., distributor for Admiral in the Detroit area, was host at a factory-sponsored dinner in the Book-Cadillac hotel.

In line with similar showings throughout the country, the program heralded delivery of the first floor models to dealers in the metropolitan Detroit area. Addressing some 300 dealers and sales representatives, Warren E. Brennan, head of the distributorship, declared that approximately 210 7-cu. ft. Dual-Temp refrigerators would appear in dealers display rooms this week. Delivery, however, was being held to one display model per dealer, he stated. No promise could be made as to when more would be available.

A demonstration comparing food sealed in a conventional Admiral refrigerator with that stored in a Dual-Temp for an equal period was conducted by Willie Mae Rogers, Admiral's home economist. Emphasizing that "no defrosting" was required for the moist-cold compartment of the Dual-Temp, Miss Rogers stated that the 85% relative humidity and 38° temperature maintained in this part of the box kept food from drying out.

She also demonstrated how in the 7-cu. ft. model the separate, completely insulated freezing locker section (above the moist-cold compartment) was capable of storing or quick-freezing up to 65 lbs. of food at a low temperature of -15° F. Each compartment of the Dual-Temp, she pointed out, is independently operated and controlled.

Also included on the program was Herbert F. Eidt, sales manager for Brennan, and Paul R. Dye, Admiral regional manager, who outlined the company's advertising and sales promotion schedule. A short film on the Dual-Temp was likewise shown.

A similar program is in effect for outstate dealers in Michigan, according to Carl Crandall, major appliance buyer for Morley Bros. outstate distributor for Admiral. About 20% of his dealers, he said, would receive their floor models of Dual-Temp in time for display this week.

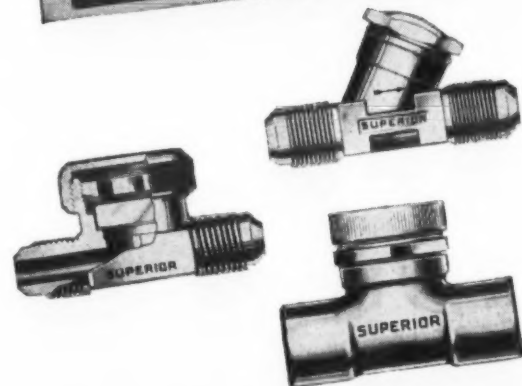
Correction

The following prices for home freezers manufactured by Fowler Equipment Co., Aurora, Ill., are published to correct those which appeared in the Sept. 30 issue of the NEWS. These prices have been submitted by the Fowler company:

Model	Cu. Ft.	Hp.	Consumer
16	15.25	1/3	\$540
21	20.	1/3	650
27	26.	1/2	764

Distributors discount is 50% from the consumer list prices. Crating, where necessary, is done at cost.

Sales are made only through the company's regular distributors, according to the company announcement.



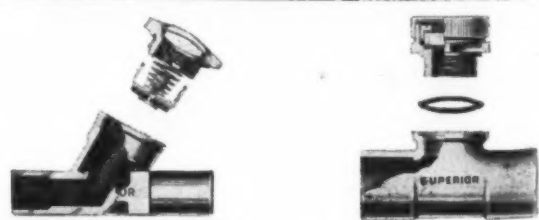
SUPERIOR VALVE & FITTINGS COMPANY
PITTSBURGH 26, PENNSYLVANIA

OFFICES IN PRINCIPAL CITIES • STOCKS: CHICAGO (6), LOS ANGELES (15) • JOBBERS EVERYWHERE

SUPERIOR CHECK VALVES—unique design, positive acting, spring-operated—cannot chatter, hum or buzz under any normal operating conditions. Pressure drop is negligible. Install one in the suction line of each low temperature circuit of all low temperature jobs—your assurance of maximum performance and trouble-free operation.

SUPERIOR LIQUID INDICATORS—call them liquid indicators, sight glasses, or refrigerant shortage detectors—one should be installed in the liquid line of each system. Seal cap over sight glass is double assurance against damage and leaks.

Note these exclusive features



The novel design of these SUPERIOR Check Valves permits the easy removal of all internal parts—as a unit—while soldering lines to valve connections, or for subsequent inspection.

Entire upper assembly of SUPERIOR Liquid Indicators—in all sizes—may be removed as a unit to preclude damage by heat while soldering lines to body connections.

If you haven't a copy of Catalog R2, request one today

Household Refrigerator Prices--

(Continued from preceding page)

Leonard

Nash-Kelvinator Corp., Detroit.

Model Number	Retail Ceiling Price
SL-7	\$163.00
L-7	190.75
DL-7	206.50
LH-9	282.25
LB-6	140.75
LH-7	238.75
L-9	238.75
HL-9	317.00

This manufacturer does not use pricing zones.

A charge of \$2.50 may be added for refrigerators equipped with a non-standard swing door.

Monitor

Monitor Equipment Corp., New York City.

Model Number	Retail Ceiling Price
RC-7	\$222.50

This manufacturer does not use pricing zones.

Phileo

The Phileo Corp., Philadelphia.

Model Number	Zone 1	Zone 2	Zone 3	Zone 4	Zone 5
A-622	\$174.25	\$176.25	\$177.70	\$182.20	\$185.20
A-721	197.75	199.75	202.75	205.75	208.75
A-731	220.00	222.00	225.00	228.00	231.00
A-741	242.50	244.50	247.50	250.50	253.50
A-931	241.25	244.25	247.25	250.25	254.25
A-750	259.25	261.25	264.25	269.25	272.25
A-751	274.75	276.75	279.75	282.75	285.75
A-752	294.00	296.00	299.00	302.00	304.00
A-950	297.25	300.25	303.25	306.25	310.25
A-951	330.75	333.75	336.75	339.75	343.75

This manufacturer uses the following pricing zones:

Zone 1: At the factory (Connersville, Ind.).
 Zone 2: Indiana, Illinois, Kentucky, Michigan, and Ohio.
 Zone 3: Connecticut, Delaware, Iowa, Kansas, Maryland, Massachusetts, Minnesota, Missouri, Nebraska, New Hampshire, New Jersey, New York, Pennsylvania, Rhode Island, South Dakota, Tennessee, Vermont, West Virginia, and Wisconsin.
 Zone 4: Alabama, Arkansas, District of Columbia, Florida, Georgia, Louisiana, Maine, Mississippi, North Dakota, Oklahoma, North Carolina, South Carolina, and Virginia.
 Zone 5: Arizona, California, Colorado, Idaho, Montana, Nevada, New Mexico, Oregon, Texas, Utah, Washington, and Wyoming.

Serval

Serval, Inc., Evansville, Ind.

Model Number	Zone 1	Zone 2	Zone 3	Zone 4
R-400-A	\$167.25	\$170.75	\$173.25	\$173.75
R-600-A	215.25	218.75	221.25	221.75
R-600	306.75	310.25	312.75	313.25
R-800-A	301.25	304.75	307.25	307.75
R-800	362.75	366.25	268.75	369.25
R-603	318.00	321.00	323.50	324.00
R-803	374.00	377.00	379.50	382.00

This manufacturer uses the following pricing zones:

Zone 1: State of Indiana.
 Zone 2: Maine, New Hampshire, Vermont, Massachusetts, Connecticut, Rhode Island, New York, Pennsylvania, New Jersey, Delaware, Maryland, West Virginia, Ohio, Michigan, Wisconsin, Illinois, Kentucky, Virginia, Tennessee, North Carolina, South Carolina, Georgia, Florida, Alabama, Mississippi, Louisiana, Arkansas, Iowa, Missouri, Minnesota, North Dakota, South Dakota, Nebraska, Oklahoma, and the District of Columbia.
 Zone 3: Montana, Idaho, Wyoming, Colorado, Utah, Nevada, Arizona, New Mexico, and Texas.
 Zone 4: Washington, Oregon, and California.

Whitehouse

Cussins & Fearn Co., Columbus, Ohio.

Model Number	Retail Ceiling Price
C-736-S	\$164.75

This manufacturer does not use pricing zones.

Wizard

Western Auto Supply Co., Kansas City.

Model Number	Zone 1	Zone 2	Zone 3
WAM-746	\$209.95	\$214.95	\$219.95
WAM-946	238.50	243.50	248.50
WAL-746	254.50	259.50	264.50
WAL-946	283.50	288.50	293.50

This manufacturer uses the following pricing zones:

Zone 1: Illinois, Indiana, Kentucky, Missouri, Ohio, and West Virginia.
 Zone 2: Alabama, Arkansas, Connecticut, Delaware, Georgia, Iowa, Kansas, Louisiana, Maine, Maryland, Massachusetts, Michigan, Minnesota, Mississippi, Nebraska, New Jersey, New Hampshire, New York, North Carolina, North Dakota, Pennsylvania, Rhode Island, South Carolina, South Dakota, Tennessee, Vermont, Virginia, Wisconsin, and the District of Columbia.
 Zone 3: Arizona, California, Colorado, Florida, Idaho, Montana, Nevada, New Mexico, Oklahoma, Oregon, Texas, Utah, Washington, and Wyoming.

Westinghouse

Westinghouse Electric Corp., Mansfield, Ohio.

Model Number	Retail Ceiling Price
B-7-46	\$200.50
AS-7-46	183.75
B-9-46	242.00
A-4-46	147.00
E-7-46	165.50

This manufacturer does not use pricing zones.

These prices are subject to an additional charge of \$5.00 for a refrigerator equipped with left-hand door.

Zenith

Marshall-Wells Co., Duluth, Minn.

Model Number	Zone 1	Zone 2	Zone 3	Zone 4
KZ-746	\$173.75	\$175.75	\$178.75	\$180.75
KZW-1746	212.75	214.75	217.75	219.75

This manufacturer uses the following pricing zones:

Zone 1: Michigan, Kentucky, West Virginia, Indiana, and Ohio.
 Zone 2: Minnesota, Wisconsin, Iowa, Illinois, Missouri, Arkansas, Tennessee, Mississippi, Alabama, Georgia, South Carolina, Virginia, Maryland, Delaware, District of Columbia, Pennsylvania, New Jersey, New York, Rhode Island, Connecticut, Massachusetts, New Hampshire, Vermont, and Maine.
 Zone 3: North Dakota, South Dakota, Nebraska, Kansas, Oklahoma, Colorado, Wyoming, Texas, Louisiana, and Florida.
 Zone 4: Washington, Oregon, Arizona, California, New Mexico, Nevada, Idaho, and Montana.

Hanson Elected President of Michigan RSES at Owosso Meet

OWOSSO, Mich.—Einer H. Hanson of Flint was elected president of the Michigan Refrigeration Service Engineers Society at a meeting of the group held in the Owosso hotel here recently.

Other officers are R. Kellogg, first vice president; Leslie Lockwood, second vice president; Charles H. Earl, secretary; C. A. Babcock, treasurer; and Floyd Kitheart, sergeant-at-arms.

New Jacksonville Store Opens

JACKSONVILLE, Fla.—A new retail radio sales store has been opened at 124 West Bay St., under the name of Seaboard Sales Co., by Albert A. Bressler. Seaboard will operate a repair department and quick-service photograph department. Mr. Bressler has indicated that a phonograph record department and line of electrical household appliances will be added in the near future.

BEVERAGE COOLERS

large coil surface, blower fan, baked finish, stainless steel doors. BEVERAGE COOLERS also available stainless steel throughout. REACH-IN REFRIGERATORS, 20, 30, 42 cu. ft. sizes, stainless steel inside and out. ICE CREAM CABINETS—6 hole, hard rubber flip-top doors, stainless steel tops. FREEZERS—8, 12, 20, and 25 cu. ft. with plate coils. OPEN TYPE FROSTED FOOD CASES—20, 25, 31 cu. ft. with plates.

IMMEDIATE DELIVERY ON ALL ITEMS

GENERAL REFRIGERATORS CORP.

678 Broadway, N. Y., 12, N. Y., ST 9-1222

REFRIGERATION UNITS, PARTS AND SUPPLIES

AIR CONDITIONING EQUIPMENT

DELCO AND WAGNER—ELECTRIC MOTOR PARTS

24,000 SQUARE FEET OF SHOP AND WAREHOUSE SPACE

SAME DAY SERVICE—ON ITEMS IN STOCK

HERMETIC UNITS AND COMPRESSORS REPAIRED

WRITE FOR LATEST BULLETIN D-46

SERVICE PARTS COMPANY

2511 Lake Street, Melrose Park, Illinois

FOR SERVICE AND PARTS—WRITE TO SERVICE PARTS

COSTS LESS
DOES MORE

TO BUY • TO RUN • TO KEEP

PER GALLON • PER TRIP • PER DAY



Now, even better than before, Chevrolet trucks can uphold their established reputation as the "thrifty-carriers for the nation"—because their operating economy, their low first-cost and their low cost of upkeep are now available to many additional users. For Chevrolet's expanded line of 99 models on 9 wheelbases covers a wider range of payload capacity, with the addition of new chassis models of higher gross-vehicle ratings (up to 16,000 pounds). Truly, there is a Chevrolet truck for every trade or industry—either with a standard body, or with special equipment for specialized uses.

Every Chevrolet commercial vehicle is built

CHEVROLET MOTOR DIVISION, General Motors Corporation, DETROIT 2, MICHIGAN

YOUR CHEVROLET DEALER CAN SUPPLY YOU WITH CHEVROLET
STANDARD TRUCKS AND SPECIAL EQUIPMENT FOR ANY HAULING JOB

CHEVROLET TRUCKS



99 MODELS • 9 WHEELBASES • THE RIGHT TRUCKS FOR ALL TRADES

Both necessary to
REFRIGERATION MAINTENANCE

THAWZONE...

THE MOVING DEHYDRANT...CIRCULATES AND SEARCHES OUT MOISTURE, DESTROYING IT CHEMICALLY. FOR NEW AND RECONDITIONED UNITS, AS WELL AS OLD.

TRACE...

A HIGHLY EFFECTIVE REFRIGERANT LEAK DETECTOR. ITS STABLE VIVID RED COLOR REVEALS LEAKS. INSTANTLY IN OLD OR NEW SYSTEMS.

HIGHSIDE CHEMICALS CO.
195 VERONA AVE. NEWARK 4, N. J.

THAWZONE

PATENTED
The PIONEER FLUID DEHYDRANT

TRACE

REFRIGERANT
LEAK DETECTOR

Philadelphia Group Urges 'Planned Air Conditioning' In Mailing to 7,500 Firms

PHILADELPHIA—Educating the public to the value and importance of properly engineered air conditioning installations is the aim of a direct mail advertising campaign now being conducted by the Electrical Association of Philadelphia.

Planned and developed by the promotional and publicity committee of the air conditioning and industrial refrigeration division of the association, the campaign is being carried to 7,500 firms located in Philadelphia, Bucks, Chester, Delaware, and Montgomery counties.

The mailing list includes 5,000 commercial establishments and 2,500 industrial organizations.

A series of three broadsides are being mailed out, according to Wirt S. Scott, committee chairman. They have been issued monthly since September, he said.

Following the theme "Planned Air Conditioning," the broadsides urge prospects not to gamble on guessing,

but to play safe by consulting a qualified air conditioning expert.

The pamphlets bring out the many factors that the carefully planned and well installed installation should provide, including air temperature regulation, accurate control of humidity, thorough air cleaning, and proper circulation and distribution of air.

The prospect is reminded that the problems of practically no two installations are identical and that a good air conditioning job does not "just happen," it is engineered.

The back page of each pamphlet lists the names, addresses, and trade names of the air conditioning equipment of the 12 companies cooperating in the activity.

Prospects are told that through a telephone call or card, they can, without obligation, benefit by the knowledge and experience of well qualified engineers in the planning of a proper installation.

Main text of the September broadside discussed these points: "Air conditioning is more than mere air cooling"; "Why planned air conditioning is more perfect than nature"; "Planned air conditioning is a science"; and "Experience vs. guessing—play safe by getting an expert's advice."

Five questions were posed and answered in the October pamphlet. They are: "What is your air conditioning problem?"; "How can you best solve it?"; "How will planning help you?"; "What will planning give you?"; and "Why is this planning service offered?"

The committee has printed 10,000 copies of each pamphlet, 7,500 for the mailing list and 2,500 for the co-operating companies.

Response to the broadside mailed in September was termed very gratifying. Several business men's associations requested the air conditioning division to provide a qualified speaker to discuss the subject at their meetings.

Members of the committee that planned the campaign include Mr. Scott of the Philadelphia Electric Co.; H. G. McCullough of S. S. Fretz, Jr., Inc.; and Charles C. Strauch of York Corp.

Verna Miller Leads Home Freezing Talks at Columbia

DAYTON, Ohio—As guest instructor of the Teachers' College of Columbia university, Miss Verna L. Miller, director of the home economics department of Frigidaire, lead a series of 10 discussion periods on "The Principles of Home Freezing Technique."

The course included a detailed study of accepted methods of processing and cooking both fresh and pre-cooked frozen foods, supplemented by colored slides and films.

Head of the Frigidaire home economics department for 17 years, Miss Miller's latest project there has been to serve as technical advisor during the filming of "Frozen Freshness," Frigidaire's new full color sound picture now being released for public showings.

YWCA Adds 2 New Boxes, Remodels 4 to Take Care Of Trebled Food Handling

LINCOLN, Neb.—Remodeling of the four kitchen refrigerators along with the addition of a walk-in meat box and a low temperature box has enabled the Lincoln YWCA to take care of its increased business, according to Marie Helen Hulbert, food director.

The cafeteria kitchen equipment was built to serve 300 persons a day, she said, but during the war and in the postwar period the daily patronage grew to 1,000.

Equipment was practically worn out at the close of the war, Mrs. Hulbert declared. The increased load was particularly hard on the refrigeration facilities which include separate 12-ft. refrigerators for meat, salads, pastry kitchen, and dairy products. Unable to get replacements, these have been rebuilt and now are giving perfect performance, she stated.

The blow-type or circulating fan system was installed to replace the coils. In addition to providing perfect refrigeration, it has eliminated the mixture of food flavors which was a problem with the coil system. With the circulating fan type of refrigeration defrosting is not necessary, it is claimed.

An 8 x 10-ft. walk-in refrigerator installed in the basement with blow-type refrigeration preserves surplus bulk foods such as lard, butter, raisins, and cheese.

Another addition has been a 19-cu. ft. Bishop food freezer. Mrs. Hulbert declared, "We feel this box has paid for itself in a few months by saving surplus food." If patronage is not as large as expected Mrs. Hulbert has surplus perishable foods stored in the freezer for next day's business.

CPA Approves Lafayette Job

LAFAYETTE, La.—An application by Thomas Bryan, local businessman, for the construction of a \$23,000 frozen food locker plant here has received the approval of the civilian production administration.

Servicing Truck Refrigeration Units

Editor's Note: Continuing this series of articles on the servicing of truck refrigeration units, an activity which is becoming increasingly important in the field of refrigerated transport in view of the growth of the frozen foods industry, the News presents here another instalment giving detailed service information on the reverse cycle Trail-Aire unit manufactured by Advance Mfg., Inc. of Detroit.

Instalment No. 6

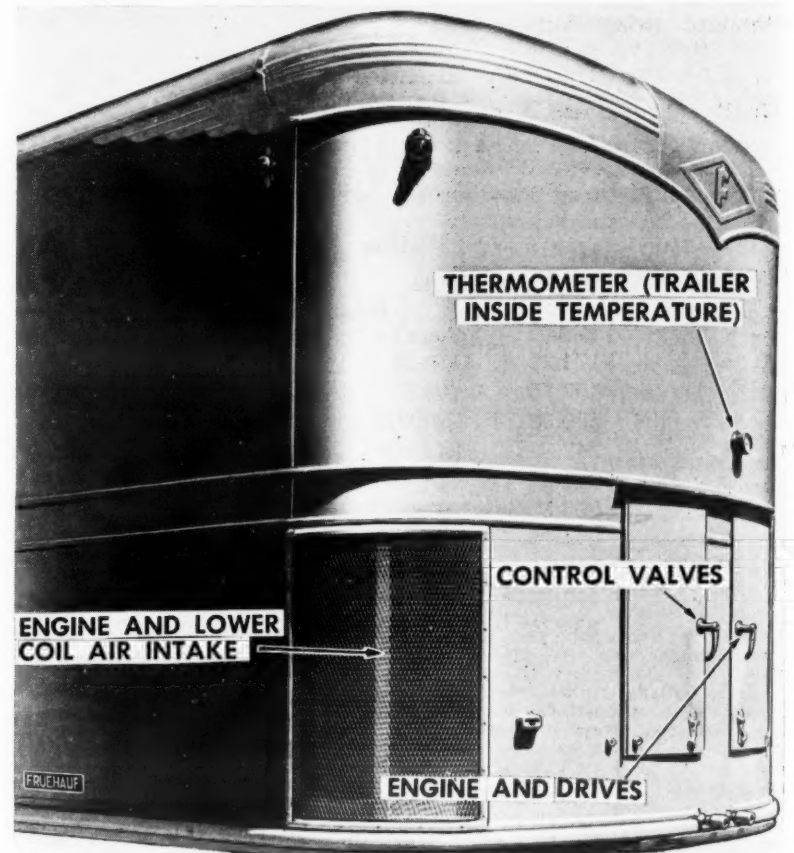


Fig. 12 shows external appearance of the front end of a trailer which is equipped with a Trail-Aire refrigeration unit.

Electrical System (Cont.)

The Thermostat Switch

Trouble may be indicated when the thermostat switch is not synchronized with the trailer temperature. Always check the operation of this switch with an accurate thermometer. Do not rely upon the thermometer installed on the front of the trailer.

It is not practical to repair this switch. If it does not operate or is not properly synchronized, the entire switch should be replaced. The gas vapor-actuating bulb for this switch is located beside the circulating fan coil and must be replaced with the switch. Do not attempt to disconnect the actuating bulb from the switch.

Manual Control Switch

If the switch action becomes faulty, remove the cover and inspect for loose connection or broken parts. This is a three-pole, double-throw

switch. Any standard switch having the same action may be substituted should the control switch become inoperative.

High Pressure Cut-Out Switch

This is a safety switch which will open when the compressor builds up too much refrigerant pressure. This switch will close the circuit again when the pressure returns to normal—usually within several minutes. If this switch will not close, it is an indication of trouble in the refrigerating system or the switch itself.

Do not remove the tubing from this switch to the compressor as high pressures are present.

Do not operate the unit if the switch is actuated frequently or intermittently, because this means there is too much pressure being built up in the refrigerating system. A refrigeration service man should be consulted.

(Continued on next page)

HEAT TRANSFER EQUIPMENT

MARLO
COIL COMPANY
SAINT LOUIS, MISSOURI

REFRIGERATION SUPPLIES

We stock a complete line of refrigeration supplies and equipment for immediate delivery.

Send for our 1946 circular

G & E Equipment Supply Co.
400 N. Sangamon Street
CHICAGO 22, ILLINOIS

Freon Condensers • Dry-Ex Water Coolers
• Evaporative Condensers • Forced Con-
vection Units • Oil Separators • Liquid
Receivers • Heat Exchangers • Pipe
Coils • Hi-Peak Water Coolers • Flooded
Water Coolers • Ammonia Condensers
Write for Catalog on any item

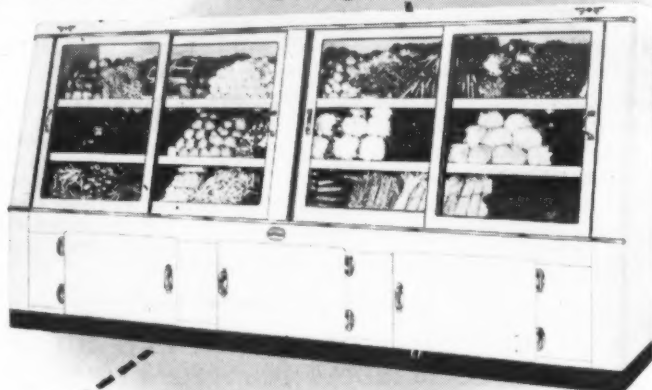


ACME INDUSTRIES
JACKSON, MICHIGAN
Offices in principal cities

VEGETAIRE

time-tested Self-Serve Produce Display

Sherer's Self-Serve VEGETAIRE offers merchants efficiency and dependability . . . triples display area . . . generous refrigerated storage space
It boosts sales and profits for them.



SHERER
COMMERCIAL REFRIGERATORS
SHERER-GILLET CO., Marshall, Michigan

VEGETAIRES • DAIRY CASES • REACH-IN
REFRIGERATORS • WALK-IN COOLING ROOMS •
MEAT & DELICATESSEN DISPLAY CASES •

One member of a complete quality line . . .
designed to be salable in volume at a profit.

"ADVANCED" REFRIGERATION COMPRESSOR

"ADVANCED" Refrigeration Compressor, Model 100—1 1/4" x 1 1/4"—2 cyl., flywheel 10" diam., 2-groove "A" section—1/2 HP. For use only with Freon refrigerant.

THE 1/2 HP COMPRESSOR
with a lot of uses!



The "ADVANCED" Refrigeration Compressor runs right through the alphabet of 1/2 HP uses. We know it's good because we designed it and we make it RIGHT!

For specifications and other information, write or phone to address below, Dept. A2.

ADVANCED AIRCRAFT, INC.

Compressor Division
Cornwells Heights, Pennsylvania
Cornwells 0364

AVAILABLE to Manufacturers and Jobbers

THE COMPRESSOR YOU CAN DEPEND ON

Servicing Truck Units (Cont.)

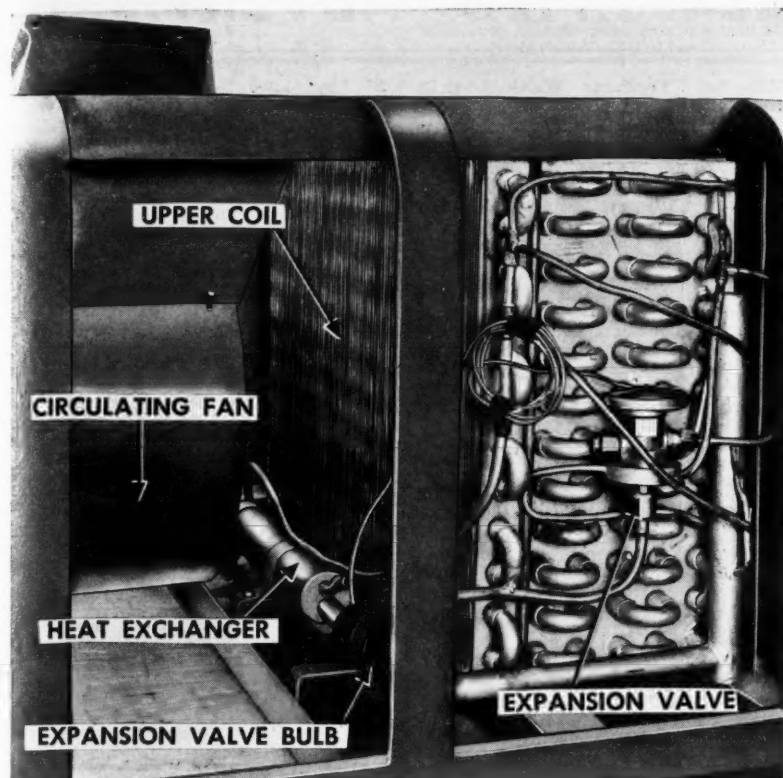


Fig. 13 shows the top section of the Trail-Aire truck unit containing the low side and blower which circulates cooled or heated air through the interior of the trailer.

(Continued from preceding page)

Refrigeration Check-list

The following check-list is intended to serve as a guide for the refrigeration service man. To check the system the refrigeration mechanic needs the usual assortment of tools, including standard high and low pressure gauges, thermometer, Halide leak detector, valve wrench, and adjustable wrenches. He should check the system in the order that follows:

1. Check dehydrator and strainer. If they are cool, either of them could be plugged and must be replaced.
2. Check all belts to see that they are not slipping.
3. Check liquid line sight glass. If bubbles are apparent when the trailer temperature is below 50° F., refrigerant should be added until the sight glass is clear.
4. Check complete system for leaks. Back pressure should be between 4 and 10 lbs. when trailer temperatures are between 28° and 40° F.
5. The upper or lower coil expansion valve should be checked to see that it is not holding open and causing a frost on the coil or a frost-back on the lines.
6. Check compressor efficiency with the suction line valve closed. (This is the top white valve.) Compressor should pump to 25 in. vacuum against 120 lbs. head pressure within two minutes. Should this test fail, the compressor head valve should be checked and put in order.

The system should be checked in the above manner until the trouble is found. **Caution:** Under no circumstances should oil be added to the compressor while it is in operation.

7. Under certain conditions it will be necessary to remove the thermostatic bulb of the expansion valve on the condenser from its mounting place before the evaporator coil can be pumped down. On the other hand,

it will also be necessary, under certain conditions, to remove the thermostatic bulb of the expansion valve on the evaporator from its mounting place before the condenser coil (then serving as the evaporator) can be pumped down when on the heating cycle.

The reason for this is, under certain conditions, a "feed-back" through the above mentioned valves allows gas to "leak" back into the coil that is being "pumped down."

8. On all units charged with "Freon-12," there is a suction pressure limiting valve in the suction line near the compressor. This valve limits the back pressure on the compressor to 25 to 35 lbs. per sq. in. on the cooling cycle.

When on the heating cycle, however, the setting of this valve is variable because of the variable pressure in the condenser (then serving as evaporator) actuating the bellows controls. This bellows is located on top of the suction pressure limiting valve.

The purposes of using this valve are: (A) limit load on compressor, (B) eliminates refrigerant getting into the crankcase during the off-cycle, and (C) breaking up slugs of liquid refrigerant during the start-up period. Opening and closing of this valve is controlled by the crankcase pressure.

9. The service man should be sure he knows whether the unit he is working on is charged with "Freon-12" or methyl chloride. This can be determined by looking for the plate on the door of the unit compartment on the front of the trailer.

10. Methyl chloride charges should be no more than 18 lbs. to avoid slug back or no less than 12 lbs. to operate efficiently.

11. "Freon-12" charges should be kept within 18 to 20 lbs.

(To Be Continued)

Fair Trade--

(Concluded from Page 4, Column 4)

Such practices, Mr. Blalock said, were largely eliminated during the war by government restrictions and resulted in the heaviest profit period ever experienced by ice cream manufacturers.

Prior to the war, Mr. Blalock pointed out, many ice cream producers resorted to heavy subsidizing of retailers in order to gain outlets and were severely penalized by a shrinking margin of profit.

He called on producers to do away with such negative trade practices as free ice cream cabinets to all dealers, hidden purchases of soda fountains and other equipment for dealers, giving extra quality at lower cost to favored customers, outright gifts of equipment to gain accounts, and cash allowances for advertising not mentioning ice cream.

Producers who do return to these practices will be faced with a sharp decline of profits, Mr. Blalock said, and would seriously harm the entire industry.

Refrigerator Cited as Key to U.S. Prosperity

ATLANTIC CITY, N. J.—The key to continued prosperity in the United States is an "ever normal" household refrigerator, according to Edward H. Babcock, Chairman of the Board of Trustees of Cornell University, who spoke at the Forty-Second Annual Convention of the International Association of Ice Cream Manufacturers in session at the Ambassador hotel here.

No people can enjoy the nutrition necessary for a healthy and progressive nation, unless agriculture and industry join hands in producing, processing, and preserving the foods necessary to keep the average household refrigerator well stocked, Mr. Babcock said. He cited the great strides in household refrigeration as a prime example of the co-operation of industry with food producers.

"One of the most important developments in science," Mr. Babcock stated, "is that of human nutrition. This will have more effect on the business of food processing and preservation than any other single thing."

Human nutrition has an entirely new concept, according to Mr. Babcock, who said that recent studies have fixed the nutrition program as simply "foods which you like best are best for you."

Mr. Babcock warned both processors of food and manufacturers of refrigerators that unless the sharp decline in livestock herds is headed off, the goal of a well-stocked, "ever normal" refrigerator would not be possible. Equipment could not be sold if there was a shortage of food products, he stated.

Livestock herds, Mr. Babcock said, have been reduced materially since 1900. The ratio of cattle has fallen from 757 per 1,000 population to

568 per 1,000. Hogs are off from 706 per 1,000 to 568, and sheep have dropped to 48% of the 1900 figure.

"Foods stored in the refrigerator are rapid turnover foods," he continued, "and tend to bring about an automatic distribution of the best in foods. The recent governmental experiment of food price fixing of the ever-normal granary instead of the ever-normal refrigerator, put the relationship out of order. The granary was filled but the refrigerator was bare. This concept of agricultural economy was tried in the depression of the 1930's and not only brought about a lessening of food supplies, but was definitely detrimental to national health, as witness the large number of military rejections for malnutrition during the recent war."

Pointing out that 40% of the U. S. population is engaged in the production, processing, and storage of food, Mr. Babcock said that a hungry people never built a sound economy.

Clark Resigns as Bendix Home Appliances Personnel Director

SOUTH BEND, Ind.—E. Robert Clark, personnel director for Bendix Home Appliances, Inc., resigned last week. Bendix has not as yet announced Mr. Clark's successor.

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Refrigeration Problems And Their Solution

By P. B. Reed

For Service and Installation Engineers



Manager, Refrigeration
and Air Conditioning
Division, Perflex Corp.

Stage Compression In Refrigeration (Part 2)

Well designed and precision built compressors have volumetric efficiencies of around 80 or 85% at the four or five to one compression ratios encountered at standard medium temperature conditions.

Let us consider what would happen with this same compressor having a 2% clearance volume if used on a low temperature "Freon-12" application which has an evaporator temperature of -60° F. and a condensing temperature of 86° F.

AN EXAMPLE OF EFFECT OF RE-EXPANSION

A temperature of -60° F. corresponds to 5.365 p.s.i.a. "Freon-12" and 86° to 108 p.s.i.a. so the ratio of compression is approximately 20 to 1. If our compressor has a 2% clearance volume the 108 p.s.i.a. trapped gas must expand 20 times before it has got down to suction pressure, that is, before any more suction vapor can get in from the suction—before it can even start to do any real good.

So 40% of the displacement of the compressor is unusable from the clearance volume factor alone. Other factors would unite to further reduce the volumetric efficiency so low that not only would the operating cost be prohibitive, but the compressor would have to be perhaps three times as large and have three times as much displacement as the actual amount of vapor pumped or a volumetric efficiency of 33 1/3%.

Compare this to the 80% volumetric efficiency at the medium temperature use where the displacement would only have to be one-fourth larger than the actual amount of vapor pumped.

It must not be supposed from the above that a compressor of a given displacement would have about one-third of its medium temperature capacity if it were operated at -60° F. Far from it. It would probably be more in the neighborhood of 1/16 rather than 1/3.

For example, a "Freon-12" compressor rated at 15 tons at standard conditions of 86° condensing and 5° evaporator would drop to a ton or less capacity if it were used on a -60° evaporator, still with the 86° condensing temperature.

TERRIFIC LOSS OF CAPACITY

One reason for this is that the refrigerating effect or refrigerating ability of the refrigerant is somewhat less under the -60° than the 5° condition, about one fifth less in fact. But the main reason is that the vapor is much lighter, much less dense at -60° than at 5°. In fact, it is only about one fifth as heavy. So 1 cu. ft. of vapor from the -60° evaporator would be only one fifth as heavy as 1 cu. ft. from the 5° evaporator.

Moreover, the cylinder (with 2% clearance volume) only gets about a one third full charge so it is really only pumping about one fifteenth or one sixteenth as much vapor by weight from a -60° evaporator as from a 5° evaporator.

Consequently, it has only about one fifteenth or one sixteenth the capacity since the capacity of a machine is, other things being equal, in direct proportion to the weight of vapor pumped by the compressor and, therefore, circulated throughout the system.

VAPOR DENSITY AND REFRIGERATING EFFECT

It is basic that at low temperatures, refrigerant vapors are relatively light and consequently large volumes of vapor must be pumped to get the amount of refrigeration required. But some refrigerant vapors are much heavier than others at low temperatures and have higher refrigerating ability per pound circulated. Therefore, for low temperatures, these refrigerants can be used to re-

Refrigerant	5° F.	-60° F.	Rate of Compression 5° F.	-60° F.
Ethane	1.82	7.77	2.87	8.7
Carbon Dioxide	.97	3.47	3.15	11.1
Propane	4.09	17.71	3.70	16.0
"Freon-22"	3.60	17.67	4.06	19.7
Ammonia	3.44	20.8	4.93	30.5
"Freon-12"	5.83	30.0	4.08	20.1
Methyl Chloride	5.95	31.4	4.48	24.9
Sulphur Dioxide	9.08	63.3	5.63	42.7

duce the displacement required and to increase the volumetric efficiency at low temperatures.

Table 1 shows a comparison of the theoretical displacements per ton of several common refrigerants at 5° and -60° evaporators, each with 86° condensing temperatures.

Thus it can be seen that a refrigerant that is satisfactory for medium temperature applications may have unsatisfactory characteristics at low temperatures, for which other refrigerants may be better suited.

IMPROVING EFFICIENCY REDUCES DISPLACEMENT

Another thing that can be done to keep down the displacement is to improve the volumetric efficiency. Tool-room methods would reduce the losses due to clearance volume but the possible improvement would be limited and the cost prohibitive.

If, in some way, that ratio of compression could be reduced a marked improvement could be made, and also important, operating savings could be made.

As a matter of fact, the losses, using "Freon-12," methyl chloride, or sulphur dioxide in this low temperature field could be so great that the size and cost of the equipment and the cost of operation would be excessive and for ordinary purposes prohibitive.

REDUCING THE RATIO OF COMPRESSION

Since the ratio of compression is the discharge pressure divided by the suction pressure and since the suction pressure is established by the temperature of the evaporator, then the ratio of compression can only be reduced by reducing the discharge pressure.

Using colder water for the water-cooled condenser would help some, but not enough. About 60° condensing temperature is as low as can ordinarily be obtained except in a few locations and with a -60° evaporator the ratio of compression would still be over 13 to 1.

A well designed, precision built compressor could furnish some refrigeration although at an inefficient rate, but reasonably good capacity and efficiency would not be secured until a ratio of compression of about 5 to 1 was obtained and this would mean a discharge pressure of about 27 p.s.i.a. or 12 p.s.i. (gauge). This would correspond to a condensing temperature of about 5°.

THE 'CASCADE SYSTEM'

This is actually done in one method called the "cascade system." One condensing unit, sometimes known as the "first stage," has a -60° evaporator and a 5° condenser giving a compression ratio of 5 to 1. Another condensing unit known as the "second stage" and having a compression ratio of about 4 to 1 has an ordinary water-cooled condenser with an 86° condensing temperature (108 p.s.i.a.) and a 5° evaporator (27.7 p.s.i.a.). This 5° evaporator cools the condenser of the first stage down to 5° so that it can have a low (5 to 1) compression ratio.

The one unit having a 20 to 1 compression ratio is replaced by two units, one having a 5 to 1 and the other a 4 to 1 compression ratio. This even results in the displacement of the first stage being smaller than would have been required if it were to operate with a 20 to 1 ratio, and in addition efficiencies are greatly improved and first costs, power requirements, and operating costs reduced.

A 5° CONDENSING TEMPERATURE

The exact method of cooling the discharge gas of the first stage down to 5° by the second stage, varies according to the designer and makers. One method that is satisfactory is to use a tube-within-a-tube heat exchanger similar to a concentric tube water-cooled condenser, with an expansion valve feeding liquid refrigerant into the inner tube at about 5° and the "hot" gas from the first stage compressor passing between the inner and outer tubes where it is cooled to about 5°.

Note that a 20 to 1 ratio is split into two ratios, one of 5 to 1 and the other 4 to 1, or, it would be possible to split into two other ratios, one being 10 to 1 and the other 2 to 1 or some other ratios which when multiplied together give the original high ratio which in this example is 20 to 1.

Note also that in this "cascade method" of stage compression, there are two separate systems, each with its own compressor, motor, condenser, evaporator, and refrigerant. The only contact between the two systems is at the 5° combination first stage condenser and second stage evaporator. Even there the contact is only thermal, for there is no actual refrigerant connection between the two systems.

MAY USE TWO REFRIGERANTS

In fact, as a rule, the refrigerants in the two systems are different. Some refrigerant is chosen for the first stage that has a fairly high vapor density at the low temperatures and also that has a high latent heat of vaporization and high refrigerating effect per pound of refrigerant circulated, so that the displacement of the first stage compressors can be kept down to a minimum.

Often the refrigerant used in the first stage of a cascade system has high evaporating pressures with the suction pressure at about 0° F. gauge, so as to minimize leaks, especially of air into the system.

This method of providing low temperatures but with low compression ratios of each system has been used considerably as it is comparatively simple to design and build. However, it is rather high in first cost as there are two separate systems; also it takes up a good deal of room and is objectionable where space is to be a factor.

REFRIGERANT SELECTION

By properly choosing the refrigerants and the necessary equipment it is practical to attain temperatures of -150° or even lower, with two stages, that is, two systems, without the compression ratio in either being excessive.

Another method of stage compression whereby excessive compression ratios are broken down into two or more ratios low enough to be practical and economical will be covered in the next issue.

(To Be Continued)

HEAT TRANSFER DESIGN ENGINEER

Engineer for designing and lining up for production new heating, refrigeration and air conditioning products with a long established nationally known heat transfer equipment manufacturer. Must be graduate of accredited engineering college with several years experience in heating, refrigeration and air conditioning fields. Experience in heat transfer and fluid flow, also in manufacturing processes such as all types of welding, brazing, soldering and forming of steel, brass, copper, aluminum, etc., desirable.

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POSITIONS WANTED

AIR CONDITIONING and refrigerating engineer, qualified in all classes of field application, unit design and metal fabricating, desires position with distributor or manufacturer in Santa Fe—El Paso—Phoenix area. Have executive and sales ability and knowledge of Spanish language. Please reply BOX 2101, Air Conditioning & Refrigeration News.

REFRIGERATION EXECUTIVE with unusual record of achievement in commercial field. Has demonstrated ability over many years to organize and conduct a complete program on a national scale. Well grounded in both engineering and sales. Can arrange for interview at Cleveland meeting. BOX 2104, Air Conditioning & Refrigeration News.

CAPABLE REFRIGERATION engineer of 14 years experience and outstanding record will be available upon reasonable notice to present employer. Thoroughly versed in research, design, and application problems. Currently located in Southwestern United States and prefers this general area. BOX 2109, Air Conditioning & Refrigeration News.

ENGINEER AIR conditioning, refrigeration, dehumidification. Over 10 years experience in equipment development, research, planning, production, sales application, estimating, installation, subcontracting. MS degree. Age 30. Hard worker. Would like responsible position in engineering or sales with manufacturer or contractor. New York metropolitan area preferred. BOX 2110, Air Conditioning & Refrigeration News.

REFRIGERATION SALESMAN now employed as cabinet serviceman, 17 years experience in commercial refrigeration traveling Arkansas and four surrounding states. Earning record \$5,000 per year. Thirty-eight years old. Desires job selling where it would be possible to earn \$5,000 to \$10,000 per year. Ability. BOX 2113, Air Conditioning & Refrigeration News.

POSITIONS AVAILABLE

REFRIGERATION AND Air Conditioning Engineer experienced in selecting equipment, making layouts, and pricing complete Commercial Refrigeration and Air Conditioning jobs wanted by ADVANCED REFRIGERATION & APPLIANCE CORP., 5624 Penn Ave., Pittsburgh, Pa., large General Electric Distributors. Good salary and opportunity for advancement to right man.

WANTED: EXPERIENCED erection and service mechanic capable of taking full charge of installations and service, handling about 15 men. Must know Ammonia and "Freon." Good steady, well paying, job for right man. Apply by letter giving experience, education, etc. RICHARDSON & RICHARDSON, INC., 88-90 Park Ave., Nutley 10, N. J.

WANTED PRODUCTION engineer superintendent for producing coolers and cases, must understand wood and metal construction, make drawings, train men, be experienced in all plant operations, have successful record, old firm centrally located. Give qualifications, etc. BOX 2086, Air Conditioning & Refrigeration News.

WANTED REFRIGERATION engineers. Excellent opportunity for men with experience in the design of hermetic and open type condensing units. Also need test and service engineers. Write giving full particulars on experience and education. Location—Ohio. BOX 2105, Air Conditioning & Refrigeration News.

ENGINEER ADMINISTRATIVE assistant to executive manufacturing refrigeration and air conditioning equipment. Experienced in sales, designing, and production. Field and office work. Excellent opportunity. BOX 2108, Air Conditioning & Refrigeration News.

SALES MANAGER for growing Eastern York Distributor. Wealthy territory for development by Engineer with sound knowledge estimating, application, and management. Sales ability and experience essential. Salary and commission wholly dependent on potential and actual productivity. Please send resume in duplicate to BOX 2112, Air Conditioning & Refrigeration News.

EQUIPMENT WANTED

EXCHANGE—We need 1/2, 3/4, or 1-hp. motors. Will offer in exchange for the above motors—new Universal 2-hp. "Freon" condensing units or 3 hp. and 5-hp. Howe "Freon" condensing units or 1 1/2-hp. single phase motors. HOWE ICE MACHINE CO., 2825 Montrose Ave., Chicago, Ill.

EQUIPMENT FOR SALE

6 HOLE ICE CREAM freezer, slit doors, sealed liner and hull, 5 inches installation. Stainless steel top. Immediate delivery. ACCURATE SHEET METAL CO., 837 Tilden St., Bronx, New York City.

WATER COIL for air conditioning by cold water—25 ton capacity—A1 condition. \$500 f.o.b. AIR CONDITIONING PRODUCTS CO., 1300 West Fifth Ave., Gary, Ind.

16 & 21 cu. ft. freezers, glass or hinged doors, stainless top. Superstructure freezer, open type \$450.00 fluorescent, menu-panel, mirror, tank-liner. Also new model double-glass-sided freezers with refrigerated dividers. Twin-stage 1/2 HP unit, less motor with each cabinet. COLDIN, 1342 Webster Ave., Bronx, N. Y.

IMMEDIATE DELIVERY—new air conditioning equipment. Weathermakers complete with motor, "Freon" coil, expansion valve, drives, filters, etc. 2 ton up to

25 ton (1,000 to 12,000 CFM Capacity); centrifugal blowers, SWSI and DWDI and twin mounted, propeller fans, heating and cooling coils, evaporative condensers. CONTROLTEMP EQUIPMENT SALES CO., 236 Butler St., Brooklyn 17, N. Y.

FOR SALE: 10,000 new aluminum ice cube trays in three popular sizes. Also air-cooled and water-cooled remanufactured condensing units 1/4 up to 2 hp. Write for particulars. EDISON COOLING CORP., 310 E. 149th St., Bronx 51, N. Y.

IMMEDIATE DELIVERY 20 cu. ft. all-steel glass top Freezers: upright glass top or open, with superstructure; Ice Cream, Frozen Food open and closed cabinets; Reach-ins, Wood and Metal Storage Boxes; all glass Sliding Door Dairy Refrigerators; Beverage Coolers; Air Conditioning Units; Motors 5-20 hp, etc. FRIGITEMP CORP., 931 Bergen St., Brooklyn 16, N. Y. Main 2-9093.

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NEW TEMPRITE room air conditioners suitable for office or small store. Rating—2.5 tons or 32,000 B.t.u. per hour. Self-contained, water-cooled condensing unit, all operating controls, 220 V. Single or three phase operation. Price each \$775, discount for quantity. Immediate delivery. INTERSTATE APPLIANCE CO., INC., 600 Broadway, New York. Walker 5-2755.

COPPER TUBING available in sizes from 3/16 in. to 1 1/2 in. Prefer to trade for condensing units or motors. New 10, 20, and 30 gallon G. E. Water Coolers also available. REFRIGERATION ENGINEERING CORP., 1518 Walnut St., Philadelphia 2, Pa.

COMPRESSOR AND PARTS rebuilding—Compressor, float valves, water valves, low pressure controls, evaporators, water cooled condensers, condensing units and many other items replaced from our large stocks, or repaired upon receipt of your defective material. Send for our catalogues listed. REFRIGERATION MAINTENANCE CORP., 321 E. Grand Ave., Chicago, Ill.

SEALED CROSLLEY TERMINALS. Installed from the outside in a few minutes without opening the compressor. Corrects leaky terminals on all Croslley "P-12" units. Set of three \$6.75 (Part No. 1020). Installation tool \$1.65. Immediate delivery. Money-back guarantee. SEALED UNIT PARTS CO., 3097 Third Ave., New York 56, N. Y.

FRIGIDAIRE METER-MISER Terminals. Installed from the inside. Fits compressors with bottom-mounted terminals. (Part No. 1060.) Set of three \$2.85. WESTINGHOUSE TERMINALS. Installed from the inside. (Part No. 1080.) Set of three \$2.85. SEALED UNIT PARTS CO., 3097 Third Ave., New York 56, N. Y.

NORGE CHECK VALVES. For open-type units. (Part No. 1040.) \$2.55 each. SEALED NORGE terminal, packing washers. For repairing leaky terminals. Installed from the outside in a few minutes. (Part No. 1050.) Three sets (9 washers) \$1.00. SEALED UNIT PARTS CO., 3097 Third Ave., New York 56, N. Y.

FOOD-BEVERAGE COOLERS—Combination 6 1/2 cu. ft. wet or dry bottle storage with additional 7 cu. ft. food or bottle storage. Have 1/4 horsepower twin cylinder units. Stainless steel sliding refrigerator door for food compartment. Very low price. Immediate shipment. TALBERT-THOMAS COMPANY, 2457 South Michigan Avenue, Chicago, Ill.

FRANCHISES WANTED

PITTSBURGH DEALER and distributor desires Franchises in Allegheny County and surrounding territories for refrigerated store cabinets, air conditioning, and related lines. We maintain our own sales and service organizations. BOX 2111, Air Conditioning & Refrigeration News.

FRANCHISES AVAILABLE

DEALERS and representatives wanted to sell complete line of new modern Florist Refrigerators and allied products of nationally advertised manufacturer of this type of cabinets. No showroom necessary. Shipments start after New Years within a 30 day period. Write BOX 2106, Air Conditioning & Refrigeration News.

BUSINESS OPPORTUNITY

FOR SALE commercial refrigeration business in Texas town of seventy-five thousand. Franchise on nationally known line in fifteen counties. Low overhead, good market, doing approximately five thousand a month volume. Will take about seven thousand dollars to handle. BOX 2102, Air Conditioning & Refrigeration News.

Laboratory Engineer

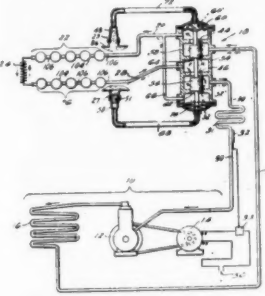
Engineer for laboratory developmental testing and rating of heating, refrigeration and air conditioning products. Must be an engineering graduate with several years testing experience. Excellent opportunity with expanding well-known manufacturer of heat transfer equipment.

Box 2098, Air Conditioning & Refrigeration News

PATENTS

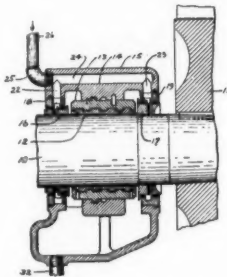
Week of Sept. 17

2,407,794. **REFRIGERATING MECHANISM.** Glenn Muffy, Springfield, Ohio. Original application Nov. 8, 1933, Serial No. 697,124. Divided and this application Jan. 23, 1939, Serial No. 252,291. 2 Claims. (Cl. 62-2.)



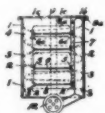
1. In a refrigerating system, a pair of heat exchangers, means including a capillary passage connecting said heat exchanger in series, said capillary passage acting as a refrigerant flow controlling means, and means for causing refrigerant to reverse its direction of flow through said heat exchangers and capillary passage.

2,407,807. **BEARING.** Oliver D. H. Bentley, Dover, Mass., assignor to B. F. Sturtevant Co., Boston, Mass. Application Feb. 29, 1944, Serial No. 524,414. 1 Claim.



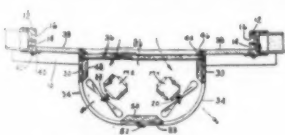
In a blower having a blower wheel with a gas inlet, a supporting shaft for said wheel, a bearing surface around said shaft adjacent the inlet of said wheel, a bearing retaining member attached to said surface, annular rings attached to said shaft on both sides of said surface, a bearing housing around said member and surface, said housing having end walls contacting said rings and having an outer wall spaced from said member and forming therewith a gas passage extending longitudinally of said housing between said end walls, said end walls being spaced from said member for forming gas passages on both sides thereof opening into said longitudinally extending passage, and means forming a gas passage between said longitudinally extending passage and a point external said housing.

2,407,827. **REFRIGERANT EVAPORATOR.** George Raymond Goldsmith, Girraween Grove, Ashgrove, Brisbane, Queensland, Australia. Application March 1, 1944, Serial No. 524,604. In Australia May 13, 1943. 6 Claims. (Cl. 62-126.)



1. In a refrigerator of the absorption type, having an evaporating coil in the form of a plurality of substantially horizontally disposed U-shaped turns, said turns being arranged in super-imposed vertically spaced relation with corresponding portions of the several turns in vertical alignment, a low temperature cooling chamber consisting of thin metal outer sides having front flanges and back held to the turns of the evaporator coil by flanged half-sleeves passing around said turns; longitudinal channelled fins upon said half-sleeves; shelves with upturned rear ends for forming sections of the rear inner wall, the side edges of said shelves being slidable in the channels of the fins, and provided with chambers and slots for avoidance of obstacles; liners for location between the upturned ends of said shelves and the half-sleeves on the one hand, and behind right angled cover plates secured to the front flanges on the outer sides on the other hand; flanges on the tops of said sides, a top with upturned side edges for sliding along the flanges on the tops of said sides; a face plate secured upon said cover plates, and a door hinged to said face plate.

2,407,858. **AIR TRANSLATING APPARATUS.** Kyle C. Whitefield, Longmeadow, Mass., assignor to Westinghouse Electric Corp., East Pittsburgh, Pa., a corporation of Pennsylvania. Application Sept. 8, 1944, Serial No. 553,177. 2 Claims. (Cl. 98-94.)

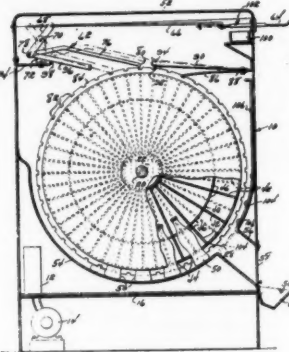


1. In a device for ventilating a room or other enclosure, a cabinet having a pair of air flow openings communicating with said room and at least one opening leading from said cabinet to a space outside of said room, a fan mounted for moving air through one of said room openings, another fan mounted for moving air through the other of said room openings, a reversible motor for each of said fans and a single switch means movable into one position in which both of said fans withdraw air from said room and discharge it through said outside opening, into a second position in which both fans draw air through said outside opening and discharge it into said room through said room openings.

draw air through said outside opening and discharge it into said room through said room openings, and into a third position in which one of said fans draws room air through one of said room openings and the other of said fans propels said air into the room through the other of said room openings.

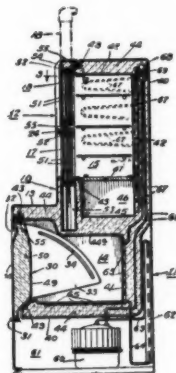
Week of Oct. 1

2,408,444. **BOTTLE DISPENSING REFRIGERATOR.** Frank U. Payne, Farmer, Tenn. Application July 10, 1945, Serial No. 494,230. 5 Claims. (Cl. 312-37.1.)



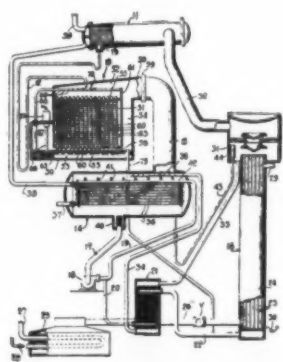
1. In a bottle dispensing refrigerator, the combination of a refrigerated chamber having an outlet, a bottle dispensing wheel mounted for rotation about a horizontal axis inside said chamber, said wheel being provided with a hub, and circular side walls on the hub, a circular dividing wall, and a peripheral wall about the aforementioned walls, and a wall concentrically arranged between the hub and the peripheral wall, said latter wall and the peripheral wall having openings therein, the openings of the latter wall being smaller than those of the peripheral wall, and staggered radial walls dividing the spaces between the aforementioned walls into compartments for loosely supporting bottles arranged endwise with respect to the axis of the wheel and equally spaced one from the other circumferentially of the wheel, said outlet being located at a low point with respect to said wheel, a bottle track about the lower circumferential extent of the wheel to hold the bottles in the wheel but terminating at said outlet to cause bottles to drop into the outlet as they are moved beyond the track, a notched flange on the wheel and means engaging the notches of the flange for rotating the wheel step by step to bring one bottle at a time to a position beyond said track.

2,408,460. **REFRIGERATOR.** Harold van Doren, Bryn Mawr, Pa., assignor, by mesne assignments to Philco Corp., Philadelphia, Pa., a corporation of Pennsylvania. Application March 30, 1944, Serial No. 528,741. 3 Claims. (Cl. 62-89.)



1. In a refrigerator, a cabinet having upper and lower compartments and an intervening insulated wall, said upper compartment having a side access opening and said wall having a section of major thickness extending upwardly at the open side of said upper compartment so as to form in the bottom of the latter a well-type chamber, said wall section being recessed from the top, a closure member for the access opening of said upper compartment movable vertically in the cabinet structure to and from an open position within said recess, a primary refrigerating system associated with said lower compartment for cooling the same, and a secondary refrigerating system in heat exchange relation with said primary refrigerating system and associated with said upper compartment for cooling the latter.

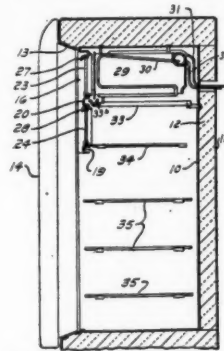
2,408,480. **EVAPORATOR FOR LOW-PRESSURE REFRIGERANTS.** John G. Reid, Jr., Evansville, Ind., assignor to Servel, Inc., New York, N. Y., a corporation of Delaware. Application Jan. 3, 1945, Serial No. 571,167. 5 Claims. (Cl. 62-113.)



1. An evaporator for use in a refrigeration system having an upper header provided with a horizontal tube sheet, a lower header, a plurality of vertical tubes extending between the upper and lower headers and projecting above the horizontal tube sheet of the upper header, means for supplying liquid refrigerant to the upper header which overflows into the

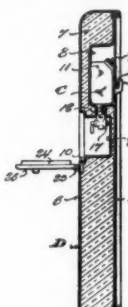
end portions of the tubes projecting above the tube sheet, said tubes having internal serrations to retard the flow of refrigerant through the tubes to maintain a film of liquid refrigerant on the interior surfaces thereof, and means for recirculating liquid refrigerant from the lower to the upper header.

2,408,582. **REFRIGERATOR.** Homer E. Rosebrook and Herschel F. Powell, Greenville, Mich., assignors, by mesne assignments, to Gibson Refrigerator Co., Greenville, Mich., a corporation of Michigan. Application Nov. 5, 1942, Serial No. 464,508. 10 Claims. (Cl. 62-103.)



1. A mechanical refrigerator comprising a storage chamber, a refrigerant evaporator disposed in the chamber, a drip pan disposed below and in closely spaced relation to the evaporator for collecting the drip from the evaporator, a substantially impermeable food storage shelf positioned below and in spaced relation to the drip pan, said pan and said shelf being constructed and arranged in relation to the storage chamber to provide passageways adjacent the perimeters thereof for a limited circulation of air between the spaces thereabove and therebelow, the cross sectional area of the passageway for the circulation of air adjacent one portion of the perimeter of the shelf being larger than the cross sectional area of the passageway adjacent another and remote portion of the perimeter of the shelf being smaller than the cross sectional area of the passageway adjacent the corresponding portion of the perimeter of the drip pan.

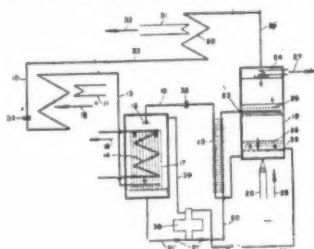
2,408,704. **LIQUID COOLER FOR REFRIGERATORS.** George E. Taylor, Kenosha, Wis. Application May 4, 1944, Serial No. 534,172. 1 Claim. (Cl. 62-89.)



A refrigerator wall or door having an upper inwardly directed pocket formed in its inner face and a lower inwardly directed pocket formed in its outer face, said pockets being connected at spaced points by openings, removable liquid dispensing jars fitted in said upper pocket having necks extending into said openings, sealing gaskets fitted in said openings and surrounding said necks, detachable valves disposed in the lower pocket connected with said necks, a closure for completely sealing the lower pocket and hiding said valves from view, when said closure is in its closed position, and means for holding the closure at right angles to the outer face of said door when in its fully open position to provide a serving tray.

Week of Oct. 8

2,408,802. **ABSORPTION REFRIGERATION CYCLE.** Glen W. Miller, Glendale, Edward L. Kells, Montrose, and Delmar H. Larsen, Los Angeles, Calif. Application Jan. 15, 1940, Serial No. 313,858. 9 Claims. (Cl. 62-119.)

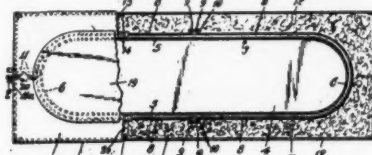


9. An absorption refrigerating apparatus comprising, in combination, an evaporator, an absorber connected to receive refrigerant therefrom, a fractionating tower, means including a conduit and a pump for delivering solvent and absorbed refrigerant from the absorber to the tower, means for actuating said pump comprising a conduit communicating with the fractionating tower adjacent the lower end thereof and adapted to deliver solvent vapor under pressure from the tower to the absorber, a conduit delivering solvent from the tower to the absorber, means for producing indirect heat exchange between the solvent travelling in said conduit from the tower and the solvent and refrigerant travelling in the conduit from the absorber to the tower, a condenser, and means for delivering refrigerant from the upper end of the tower to the condenser and from the condenser to the evaporator.

2,408,905. **REFRIGERATOR.** Arthur T. Millott and Edmund C. Graham, Minneapolis, Minn., assignors to Conditioned Air Equipment Co., Minneapolis, Minn. Application Aug. 11, 1944, Serial No. 548,948. 5 Claims. (Cl. 62-128.)

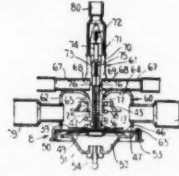
1. In a refrigerating structure, an evaporator and storage unit including an inner

member having a circumferential generally upright side wall, and a bottom wall, of heat conducting material, said upright side wall having arcuate portions connected by generally rectilinear portions, a tube coiled around the exterior of said inner member in a plurality of vertically spaced loops, and an outer flexible draw band structure and means for drawing it



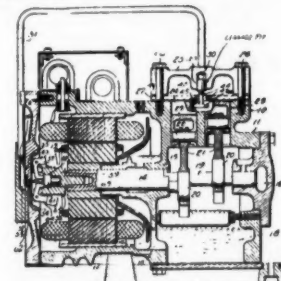
tightly about said tube and for thereby holding said tube in close contact with the opposed outer surface of said side wall, said draw band structure including means for forcing inwardly against the tube those parts of the draw band which are opposed to the generally rectilinear portions of the side wall.

2,408,919. **REFRIGERATION EXPANSION VALVE.** Ernest J. Dillman and Franklin Y. Carter, Detroit, Mich., assignors to Detroit Lubricator Co., Detroit, Mich., a corporation of Michigan. Application April 5, 1945, Serial No. 586,668. 14 Claims. (Cl. 62-8.)



1. An expansion valve comprising a cup-like casing having an end wall and an opposite open side, a pressure responsive diaphragm closing and sealing said open side, a cap member sealed to said casing and to said diaphragm and forming with said diaphragm a temperature responsive pressure chamber, a volatile liquid in said chamber, said casing having inlet and outlet openings for flow of vaporized refrigerant medium through said casing in contact with said diaphragm, a tubular member projecting externally from said end wall concentric with said diaphragm and having a longitudinal passageway there-through opening into said casing, a valve seat member in said passageway, a valve member in said passageway on the inlet side of said seat member, valve operating means extending through said passageway and said seat member and connecting said valve member to said diaphragm, said tubular member having an outlet from said passageway external of said casing, and means sealing said passageway around said valve operating means on the casing side of said outlet.

2,408,932. **COMPRESSOR UNLOADER.** Sylvan Roos Hirsch, Utica, N. Y., assignor to Brunner Mfg. Co., Utica, N. Y., a corporation of New York. Application May 17, 1944, Serial No. 536,007. 8 Claims. (Cl. 230-39.)

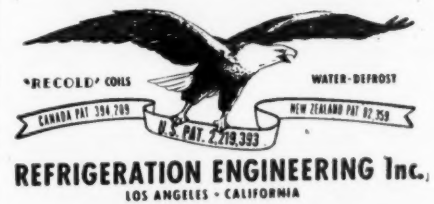


1. In a refrigeration compressor, a head having a chamber provided with a port in communication with the gas passage of the compressor, conduit means in communication with said chamber and with the crankcase of the compressor to convey

oil-laden gas from the chamber to the crankcase when the compressor is idle and for condensation of the oil in the conduit means when the compressor is operating a check valve arranged to close said port through differential pressures on opposite sides thereof, said check valve having a leakage fit at the entrance of said conduit means, and a bleeder valve controlling the communication of the conduit means to the crankcase positioned so as to be sealed by the aforesaid condensation of the oil in said conduit means when the compressor is operating.

(To Be Continued)

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11/4/46

REWA Meeting--

(Concluded from Page 1, Column 5)

3. Net cost schedules for use by the wholesaler, and also a net resale schedule to replace the complicated discount schedules which are now often the rule.

4. Establishment at the earliest possible time of the date for the next All-Industry Show, so that R.E.W.A. can dovetail its plans into those for the show.

5. Reduction of warranties on products from one year to 90 days.

6. Easing of regulations on refrigerant cylinder recording.

7. New definitions to distinguish the "true" manufacturer from the assembler, and a schedule of discounts which will permit the wholesaler to sell some of these firms.

8. Simplified listing of parts by makers of condensing units.

Dealers, Distributors Form New Association

CLEVELAND, Oct. 29—During the show week a new national industry association was formed by a group of nearly 100 commercial refrigerator dealers and distributors who met at the Carter hotel and voted to organize the National Commercial Refrigerator Sales Association.

This new association, which will be formally incorporated in the near future, hopes to serve as a national clearing house and guide to local commercial associations in a broad program to improve their status as a group and individually.

"We have absolutely no intent of fixing prices or policies that would

contradict the sales policies of manufacturers," emphasized Geo. B. Herman, first president of the new group. "We have no thought of dictating to manufacturers, for we will need the cooperation of manufacturers in this new organization."

Besides Mr. Herman, of Allied Store Equipment Co. in Minneapolis, other new officers are: vice president, H. B. Adams of H. B. Adams Refrigeration, Tampa, Fla.; secretary, A. J. Edmundson of First Colony Distributors, Inc., Raleigh, N. C.; and treasurer, H. A. Hattenbach, of Hattenbach & Son, Cleveland.

Twelve directors were also selected, including: Z. O. Jennings, L. W. Shell, Fred Kogod, Ralph L. Hamilton, G. L. McWilliams, Thos. H. Sullivan, Charles J. Therman, Charles Cole, C. S. White, J. W. Jennings, W. C. Bader, and Walter H. Jones.

Large NARC Turnout Causes Meeting Switch

CLEVELAND, Oct. 29—The National Association of Refrigeration Contractors took its first big step onto the industry stage this week—and was surprised and pleased at its strength.

Uncertain as to attendance before the first annual meeting opened, officials soon knew the answer.

So great was the turnout that meetings had to be switched from the Chester Room of the Hotel Allerton to the Grand Ball Room. At the beginning of the second day President Warren W. Farr announced that registration had passed the 300 mark. Approximately 50 new applications for membership had been received up to that time.

Accent during the sessions was on these needs of the Association: establishment of standard methods and procedures on business and trade practices, compilation of industry statistics, and standard procedures on labor, public, and governmental relations.

Special emphasis was placed on controlling unfair trade practices, and unfair competition, setting up refrigeration licensing codes, and the need for recognition of refrigeration as a separate craft in reference to such matters as labor relations and certain types of business insurance, workmen's compensation, and public liability.

E. S. Wright, recording secretary,

told conferees that it was time for the refrigeration contractor "to take his rightful place at the council table of the industry." And, he declared, "our men are not grease monkeys; they deserve to be recognized as craftsmen in their own right."

Mr. Farr noted, among other things, that the Association was attacking aggressively the problems of small-motor and "Freon" shortages.

After a conference between NARC and REWA trade relations committees the NARC committee requested certain modifications in REWA's officially printed statement of policy. It recommended that under the caption "Definition of a Wholesaler," the NARC definition of "refrigeration contractor" be substituted for the word "service man," and that the definition of "other recognized trade outlets" be limited to those falling into the refrigeration contractor category.

The committee also recommended that REWA members desist from doing shop service trade work, since they held themselves out as a trade sales organization, and that REWA members issue only list-price catalogs and limit the distribution of discount lists to their carefully screened trade lists. It was also suggested that REWA abide by its "Statement of Policy" and sell to wholesale customers only, and not to retail at any price, and that members display a sign, "wholesale only," to substantiate such practice.

The legislative committee made these recommendations: that a standard licensing code and a code of ethics and business practices be drawn up; that a test case be instituted in a Federal court to prove the NARC opinion that commercial refrigeration contractors doing intrastate business are not subject to the FLSA; and that all OPA refrigeration price controls be removed.

1,000 RSES Members Set Attendance Record

CLEVELAND, Oct. 29—With more than 1,000 members and guests registered, the ninth annual convention of the Refrigeration Service Engineers Society set a new record for attendance as the Society filled the Hollenden hotel here far beyond its capacity.

Record attendance also at the educational sessions held all day Sunday and Monday as well as Tuesday morning, was remarkable, said officers of the Society, and perhaps is another indication that the entire refrigeration industry is preparing for a tremendous expansion in its market. In this connection it is well to note that the Society voted to enlarge its educational activities greatly.

In a somewhat stormy session held at the close of the meeting on Tuesday in which each officer was voted upon individually, W. W. Allison, of Los Angeles, was elected president; William Marshall, of Leaside, Ontario, first vice president; Charles Harris of Cambridge, Mass., second vice president; C. J. Doyle of Omaha, treasurer; and J. L. Driskell of Burley, Idaho, sergeant-at-arms. H. T. McDermott, re-elected secretary, was also voted a life membership.

Bendix Earmarks \$3 Million For 1947 Advertising Budget

SOUTH BEND, Ind.—Bendix Home Appliances, Inc., will spend \$3,000,000 next year for advertising, Walter J. Daily, advertising and sales promotion director, announced last week.

All important media—newspapers, national magazines, outdoor, spot radio and spot movies—will be used.

Sen. Wherry Forecasts End of Locker Controls

CLEVELAND, Oct. 29—At its first convention held in conjunction with the All-Industry Show, the National Frozen Food Locker Association heard Senator Kenneth S. Wherry of Nebraska and A. C. Hostetter, chief of OPA's miscellaneous services section, forecast an early end to practically all controls over frozen food locker and processing prices.

Senator Wherry went so far as to say that he thought controls could be lifted from the industry before Nov. 5, but warned the gathering that the lifting of price control was not the end of bureaucracy in Washington.

At early business sessions, the Association passed amendments and by-laws to its constitution designed to make elections more democratic. It also elected the 1947 officers under new rules.

For the coming year, officers of the Association are: E. G. Spencer, of Houston, Tex., president; Harry Flory, of Eaton, Ohio, first vice president; Vaughn R. Walker of Watseka, Ill., second vice president; Howard E. Ullery of South Bend, Ind., third vice president; and William H. Hasebroock, of West Point, Neb., treasurer.

In addition to these officers, C. G. Holmes, Jr., of Sebastopol, Calif., retiring president; E. B. Nelson of Fairmount, Minn.; and L. C. Shellabarger of Mt. Pleasant, Iowa, were elected to the executive board. Mr. Holmes will be an ex-officio member.

Kaiser Fleetwings Ships 1,500 Dishwashers to Distributors

DETROIT—Approximately 1,500 "jet propelled" dishwashers with standard chassis have been shipped to 146 distributors, Kaiser Fleetwings, Inc., announced late last week.

Consumer sales are being handled through some 4,200 Kaiser dealers, and it seems unlikely that the merchandising program will be broadened.

Metals Picture--

(Concluded from Page 1, Column 3)

to prevent these products being sold to foreign markets at a loss to the U. S. Government. To forestall increased exportation of metals in short domestic supply, however, the CPA will continue to control the allocation and recommendation for such export.

In another move to aid manufacturers who need zinc to keep their plants operating, the CPA early last week announced that, starting in November, it would release all six grades of zinc from government stocks.

Release of zinc was expected to provide more materials for the output of, among other things, brass mill products and die castings for vacuum cleaners as well as other consumer durable goods.

According to the release order, manufacturers will be required to apply to CPA's Tin-Lead-Zinc Branch for approval of applications to buy zinc from the Office of Metals Reserve, RFC.)

Price Increases on Small Motors Asked by Committee

WASHINGTON, D. C.—Price increases on split phase and capacitor type motors up to 1/2 hp. have been requested by the members of the Fractional Horsepower Motor Industry committee, here.

OPA action is expected soon.



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